Together 2 Goal®

AMGA Foundation
National Diabetes Campaign

Monthly Campaign Webinar

October 19, 2017

TODAY'S WEBINAR

- Together 2 Goal® Updates
  - Webinar Reminders
  - November 2017 Monthly Webinar
  - Goal Post October Newsletter Highlights
- Patient-Reported Outcomes in Diabetes
  - Nirav Vakharia, M.D. and Irene Katzan, M.D., M.S., of Cleveland Clinic
- Q&A
  - Use Q&A or chat feature

Together2Goal®

WEBINAR REMINDERS

- Webinar will be recorded today and available the week of October 23rd
  - Together2Goal.org Website (Improve Patient Outcomes → Webinars)
  - Email distribution
- Participants are encouraged to ask questions using the "Chat" and "Q&A" functions on the right side of your screen

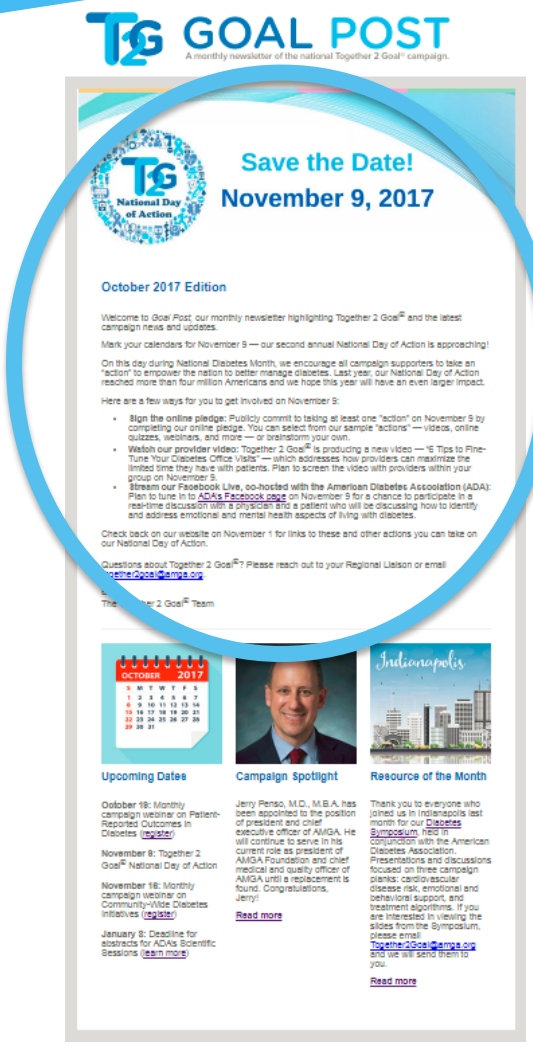
Together2Goal®

NOVEMBER 2017 MONTHLY WEBINAR

- **Date/Time:** Thursday, November 16, 2-3pm Eastern
- **Topic:** Community-Wide Diabetes Initiatives
- **Presenters:** Leon Jerrels, M.B.A., M.H.A., R.N., CPHQ, Director of Quality Improvement, of Kelsey-Seybold Clinic

Together2Goal®

GOAL POST NEWSLETTER: OCTOBER HIGHLIGHTS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Save the Date!
November 9, 2017

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Check back on our website on November 1 for links to these and other actions you can take on our National Day of Action.

Questions about Together 2 Goal®? Please reach out to your Regional Liaison or email Together2Goal@amga.org.

The Together 2 Goal® Team

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October 19: Monthly campaign webinar on Patient-Reported Outcomes in Diabetes (register)

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Campaign Spotlight

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Read more

Second Annual National Day of Action November 9, 2017

- Sign the online pledge
- Watch our provider video
- Stream our Facebook Live, co-hosted with the American Diabetes Association (ADA)

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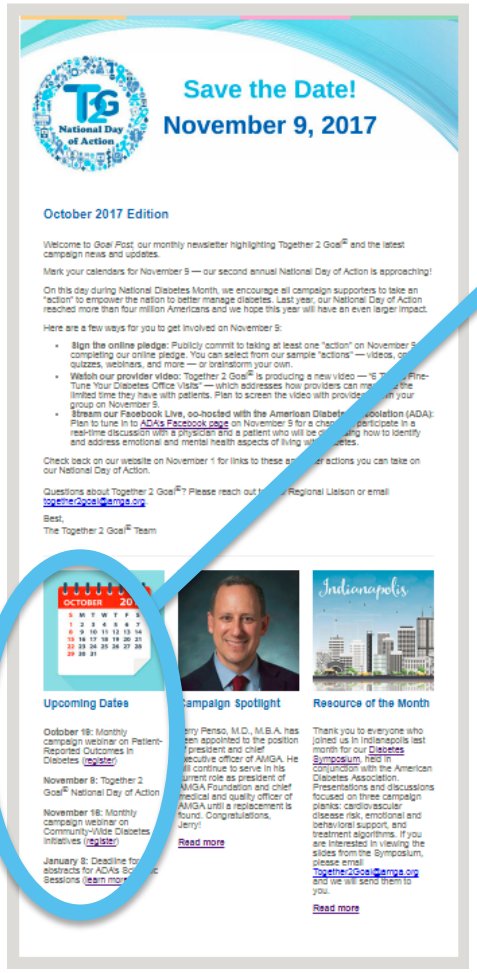
Together2Goal®

GOAL POST NEWSLETTER: OCTOBER UPCOMING DATES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Together2Goal®

ADA SCIENTIFIC SESSIONS
JUNE 22-26, 2018

CALL FOR ABSTRACTS | Deadline: January 8, 2018—5:00 p.m. EST

Abstract submission for the 78th Scientific Sessions is now open!

Each year, only the best new basic and clinical science related to diabetes and its complications is presented at the Scientific Sessions, providing the latest research and investigative methods not found at any other meeting.

The committee encourages submissions that are innovative, challenge current treatment paradigms, and represent the latest advances in basic, clinical, and translational science. This is your opportunity to shape the scientific program and help ensure that the most relevant spectrum of topics is presented at the meeting.

Submit your research today!

Visit scientificsessions.diabetes.org for the most up-to-date meeting information.

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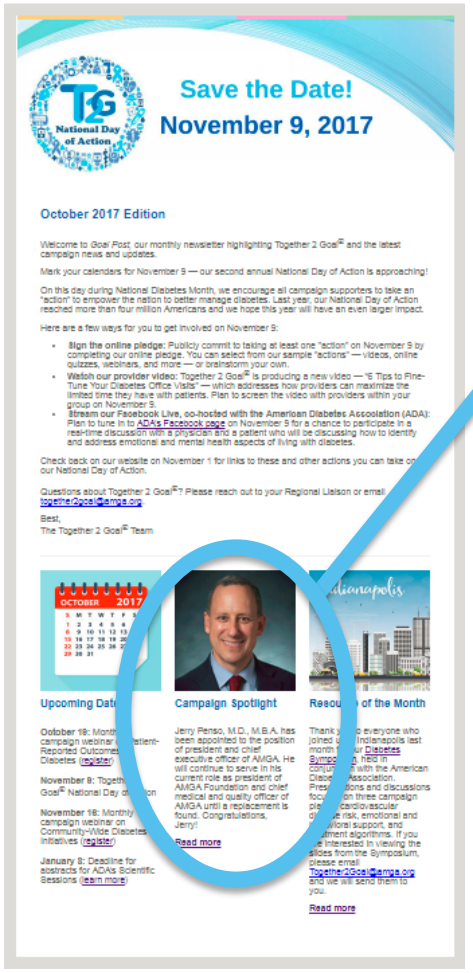
GOAL POST NEWSLETTER: OCTOBER CAMPAIGN SPOTLIGHT



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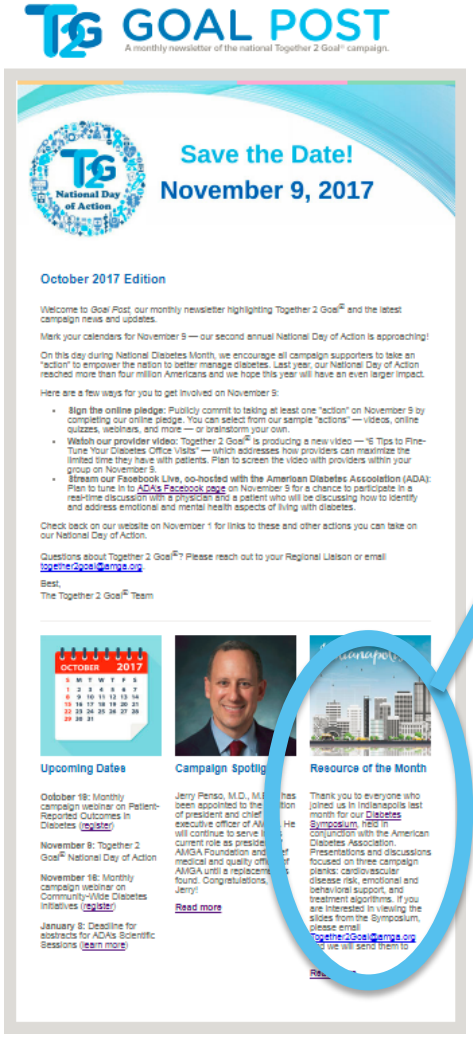
Jerry Penso, M.D., M.B.A.
Named AMGA President and CEO

"I'm committed to ensuring AMGA becomes an even stronger voice in changing and improving health care, and supporting our members in meeting the needs of patients."

AMGA
Advancing High Performance Health

Together 2 Goal®

GOAL POST NEWSLETTER: OCTOBER RESOURCE OF THE MONTH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Resource of the Month

email Together2Goal@amga.org for slides!

Together 2 Goal®

TODAY'S SPEAKERS

Nirav Vakharia, M.D.

Associate Chief Quality Officer
Cleveland Clinic

Irene Katzan, M.D., M.S.

Vascular Neurologist
Cleveland Clinic

Cleveland Clinic

Patient Entered Data & Diabetes Care

Irene Katzan, MD **Nirav Vakharia, MD**

October 2017

Agenda

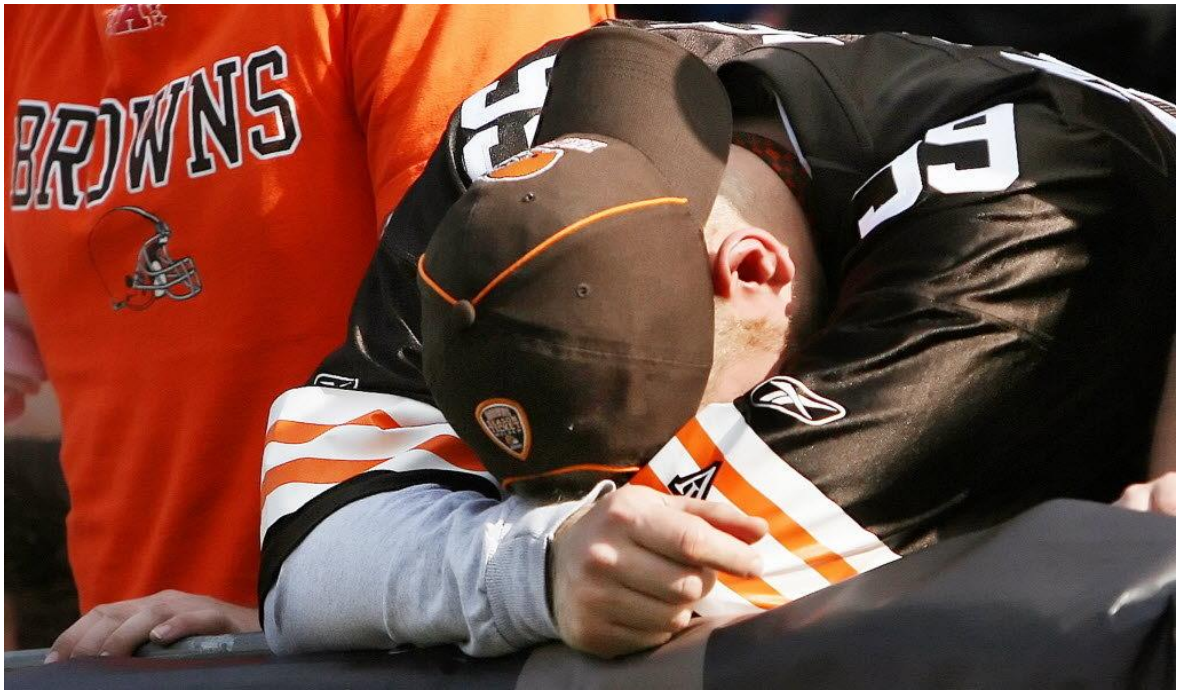
- **Who we are**
- **Our approach to diabetes care**
- **Patient-entered data at Cleveland Clinic**
- **Assessing the value of PED in diabetes**

Cleveland Clinic

Health Care Provider for…

Cleveland Clinic

NOT Health Care Provider for…



Vital Statistics

- 53,000 caregivers
- 220,000 admissions
- 14,000 surgeries/month
- 7.1M visits/yr
- 3600 physicians
- 2000 residents/fellows
- Single electronic record
- US$8B revenue

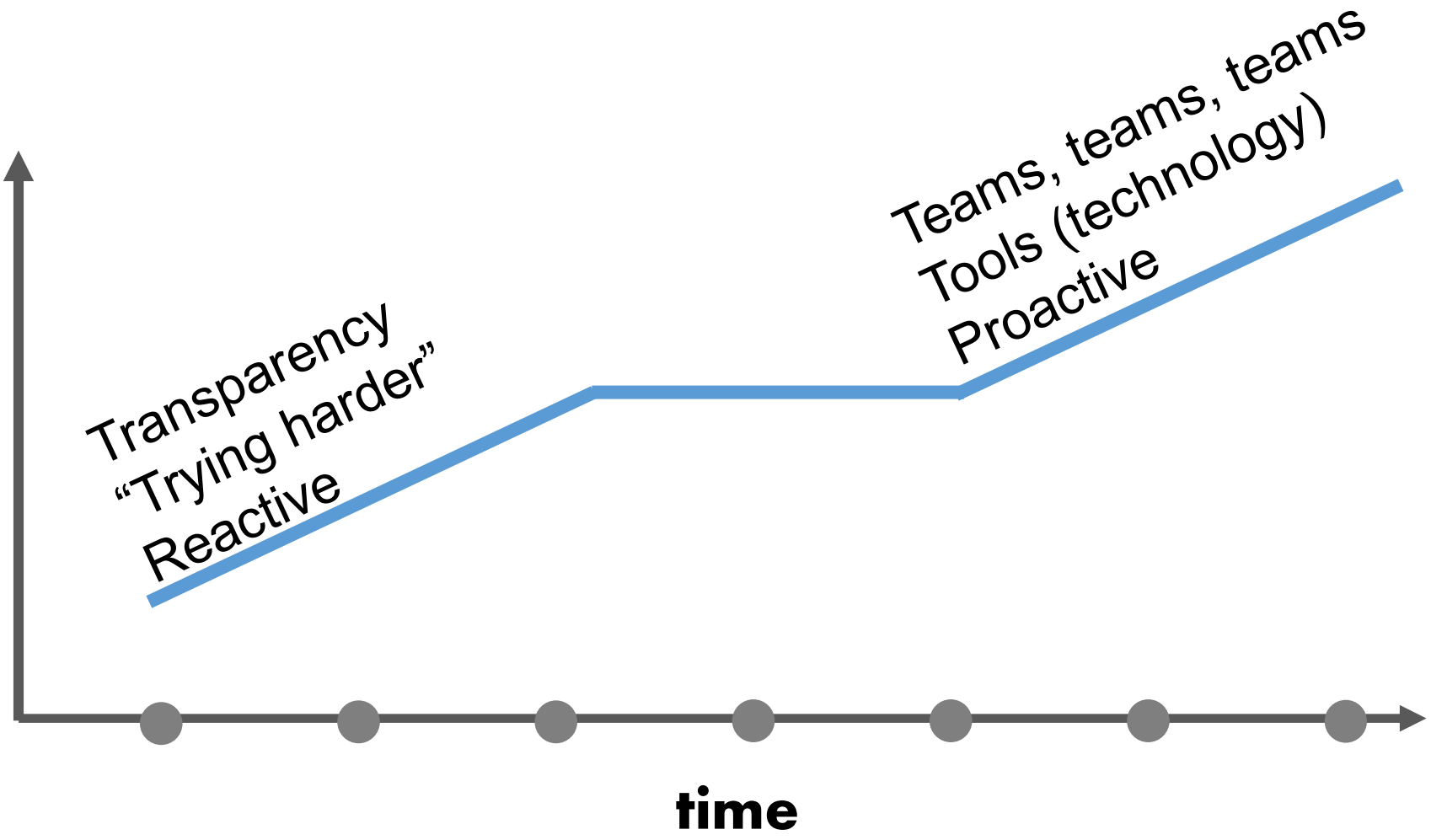
Cleveland Clinic

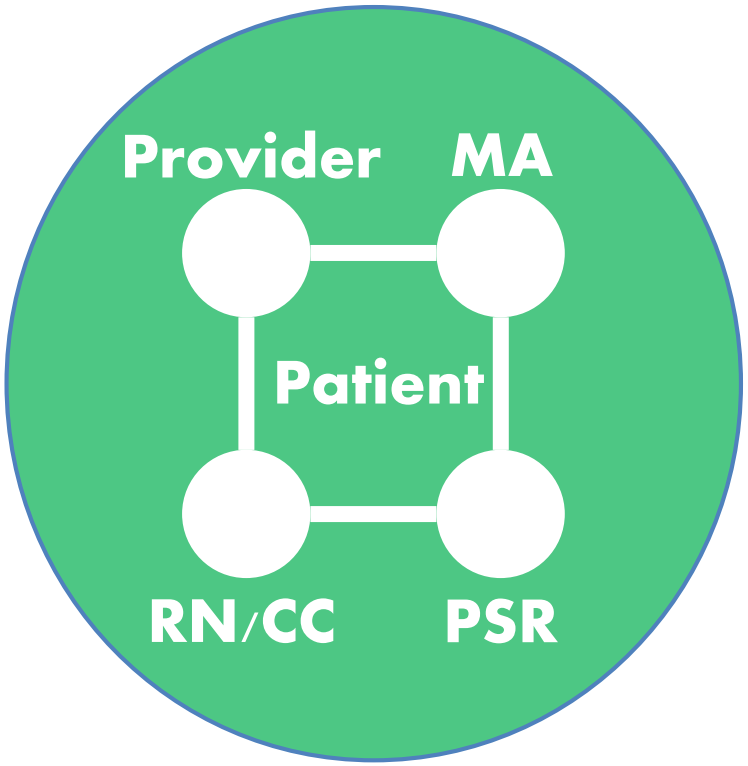
Adult Primary Care
Who We Are

400k adult patients	**300** PCPs	**50** care coordinators
51 ambulatory sites	**10** social workers	**10** clinical pharmacists

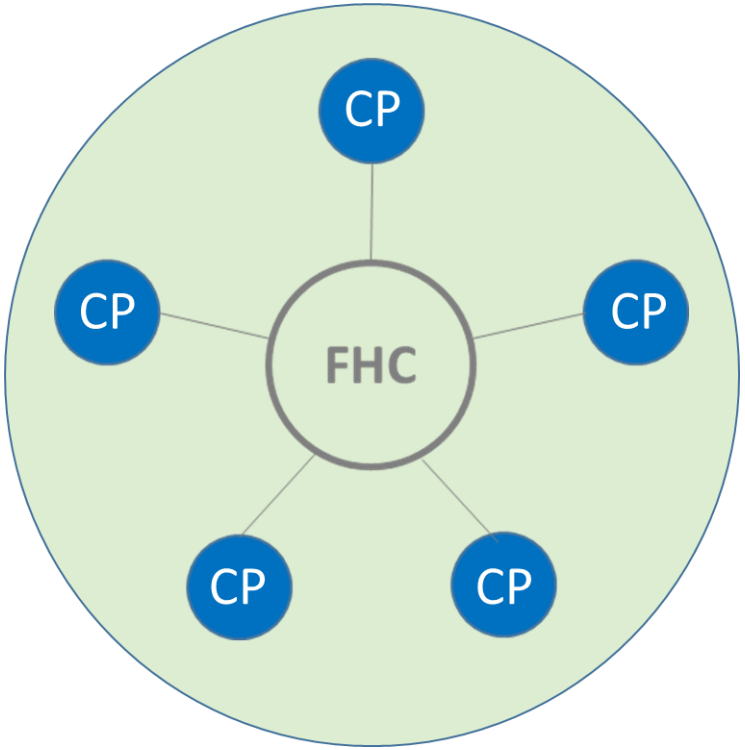
Our Approach to Diabetes Care

Our Quality Performance





"Teamlets" within Practices



Shared Resources

Pharmacy, Behavioral Health, Social Work, etc.

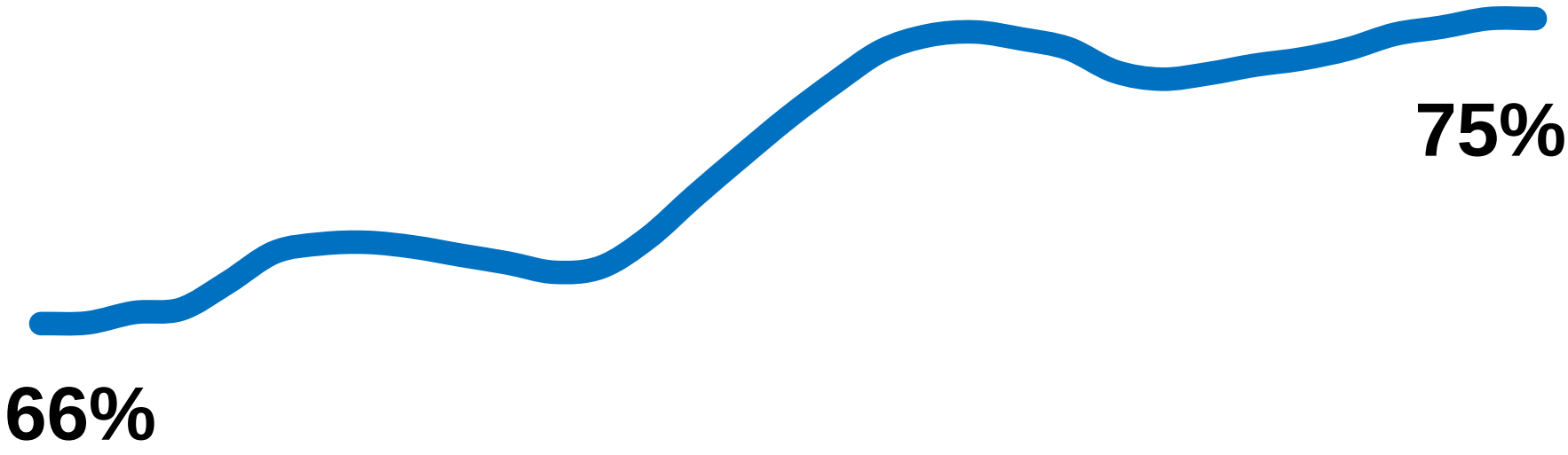
Cleveland Clinic

Tools (Technology)

- Registries
- Care pathways
- Patient portal (MyChart)
- Virtual visits & education
- Home device integration

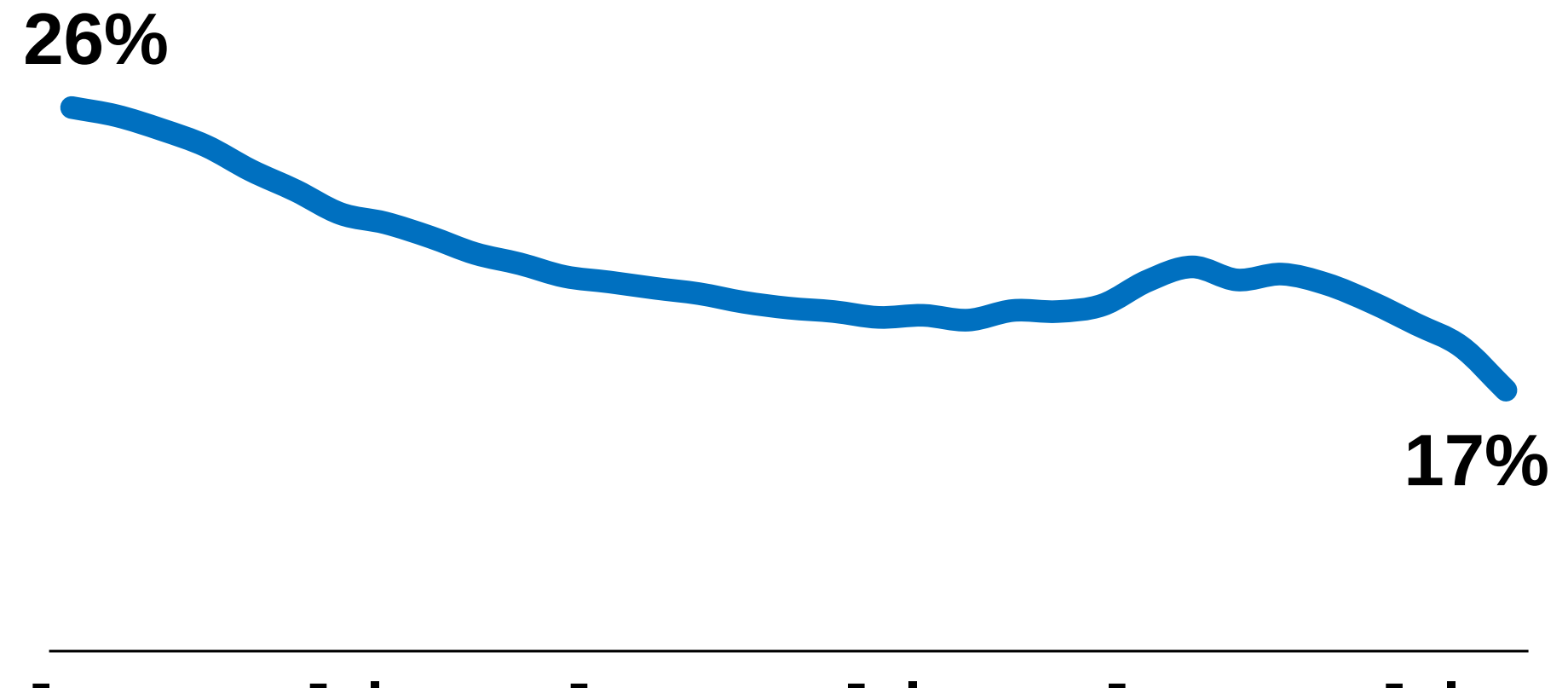
BP Control <140/90

(n=150,000)



Uncontrolled Diabetes HbA1c>9

(n=59,000)



Patient Entered Data at the Cleveland Clinic

Rationale for PRO Collection
Value-based Care

1) **Improve (patient-centered) care**
   - Screen for conditions, monitor outcomes
   - The question patients ultimately care about is:

     "Do I feel better?

2) **Value-based care**

$$\text{Value} = \frac{\text{Outcome}}{\text{Cost}}$$

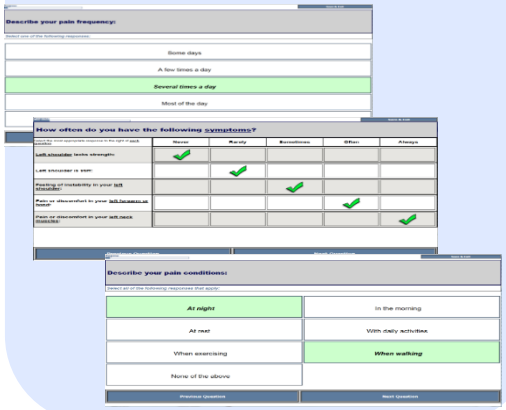
   - Measuring, reporting, and comparing outcomes are perhaps the most important steps toward rapidly improving outcomes and making good choices about reducing costs

3) **Generation of new knowledge**
4) **Quality**

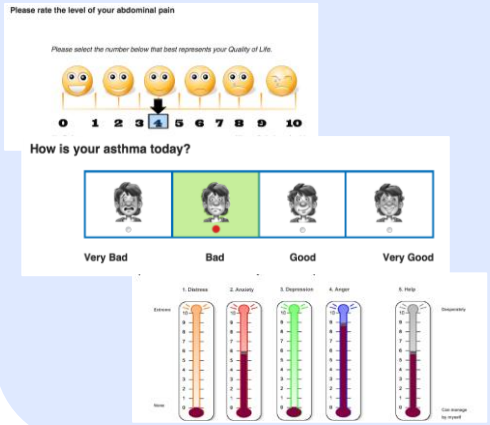
Patient-entered Data Collection at Cleveland Clinic

- **Knowledge Program - system that electronically collects and tracks patient reported outcomes within existing clinical work flows**
- **Began 2007 within the Neurological Institute and has expanded**
- **Currently an agnostic platform**
- **Integrates with EHR**

Standard Questions



Custom Questions



Provider Display

Score

Score interpretation

Longitudinal data display

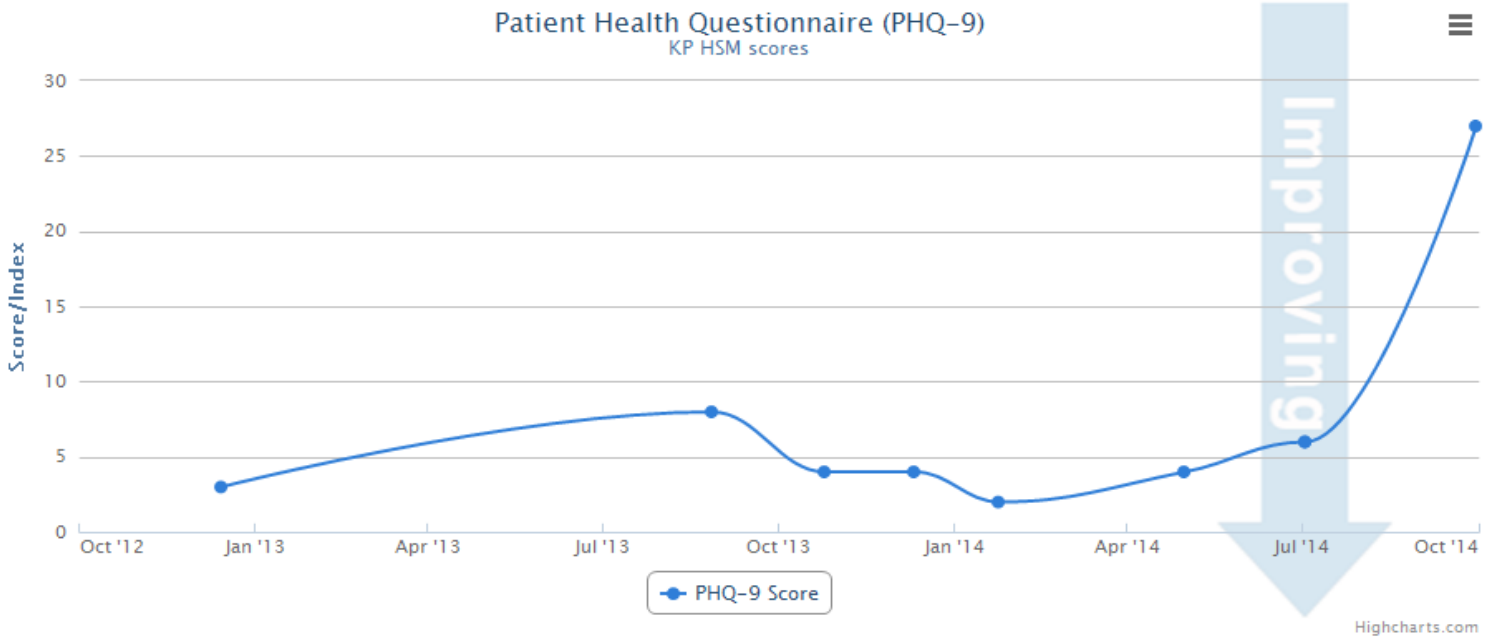
Clinically meaningful change from prior score

Provider Display

Patient Reported Data — Quick Links ==> bottom of page | provider section

Questionnaire Name	Score	Interpretation	Flowsheet	Sig Change
Patient Health Questionnaire (PHQ-9)	27 !	Severe Depression		*

Graph | Questions | Score Details



Select options | 6 Months | 1 Year | 2 Years | 5 Years | All

Provider Display

Patient-entered data can flow into the clinic note:

Scores over time:

07/25/17 - PHQ-2 Score: 0 PHQ-9 Score: 2

Depression Screening	7/17/2017
PHQ-2 Score	0
PHQ-9 Score	2

Detailed results :

Patient Health Questionnaire (PHQ-9)

PHQ-9 Levels:

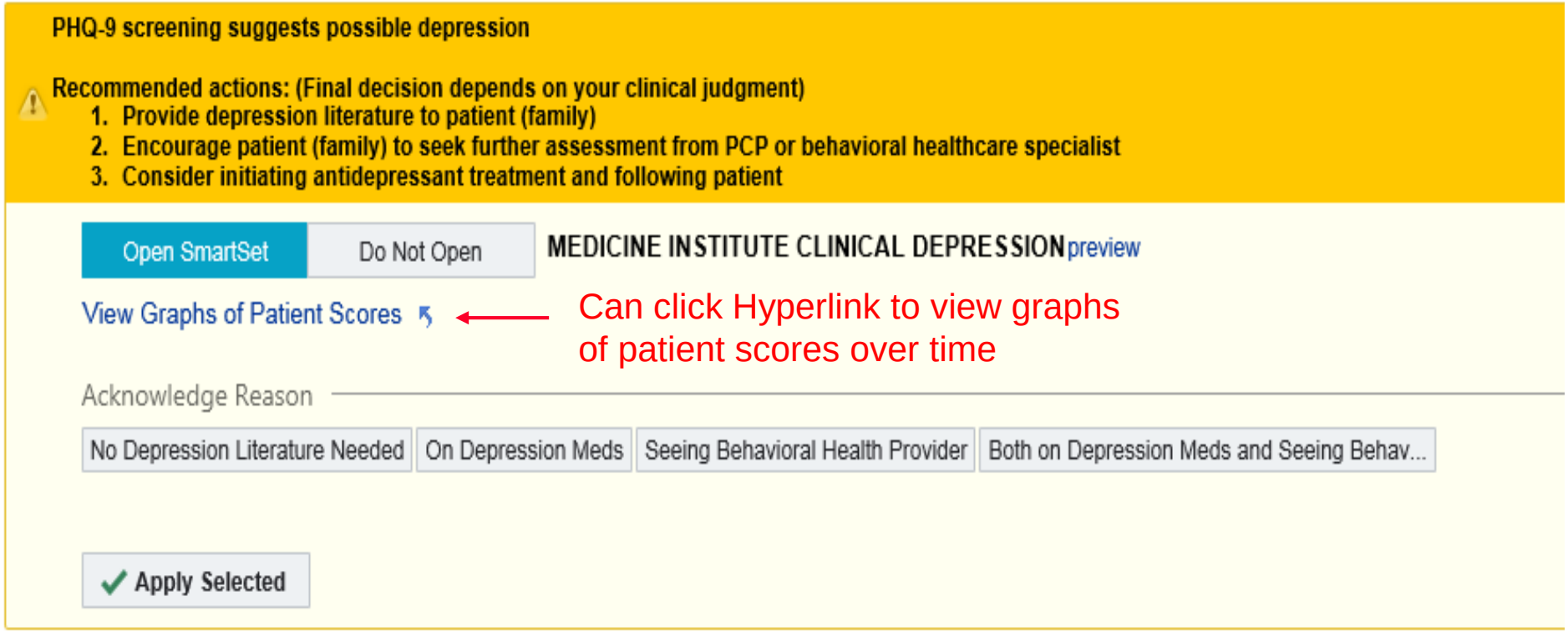
0 - 4	Minimal depression
5 - 9	Mild depression
10-14	Moderate depression
15-19	Moderately severe depression
20-27	Severe depression

PHQ-9 Score: 2
PHQ-2 Score: 0 (0-3)
Daily difficulty level due to depression (0-3): 0

1. Little interest or pleasure in doing things?: Not at all
2. Feeling down, depressed, or hopeless?: Not at all
3. Trouble falling or staying asleep, or sleeping too much?: Several days
4. Feeling tired or having little energy?: Several days
5. Poor appetite or overeating?: Not at all
6. Feeling bad about yourself - or that you are a failure or have let yourself or your family down?: Not at all
7. Trouble concentrating on things, such as reading the newspaper or watching television?: Not at all
8. Moving or speaking so slowly that other people could have noticed. Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?: Not at all
9. Thoughts that you would be better off dead, or of hurting yourself in some way?: Not at all
10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?: Not difficult at all

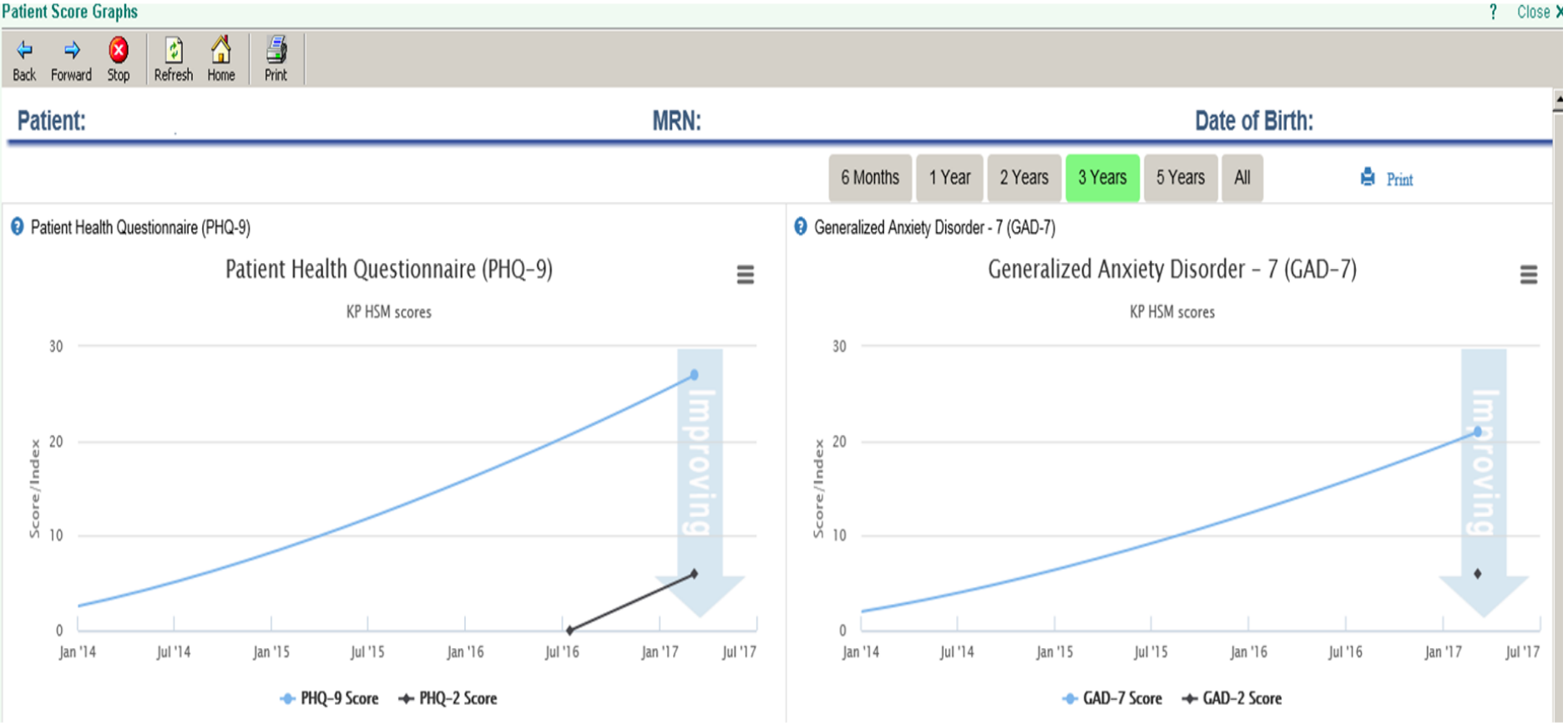
Clinical Decision Support

Epic Best Practice Alert - displayed at encounter open

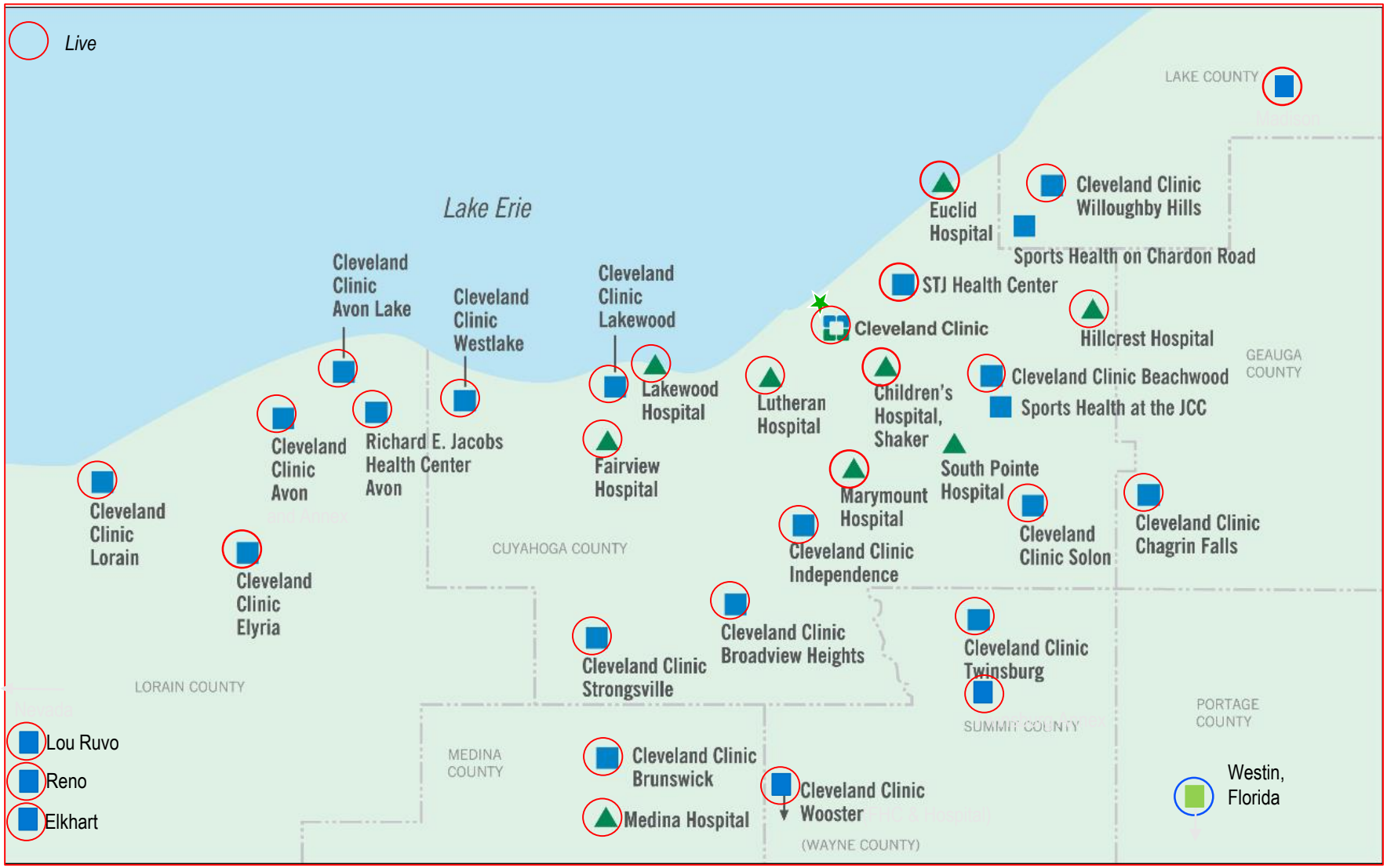


Clinical Decision Support

“Graph of Patient Scores” Link from within BPA

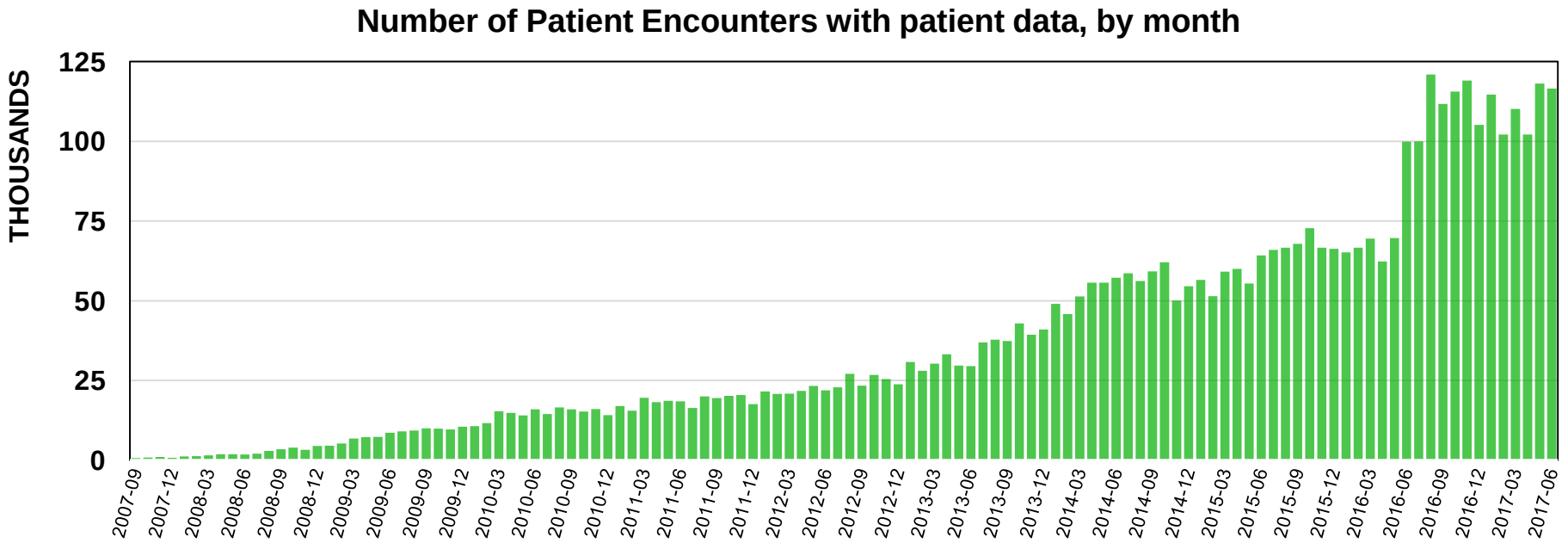


Knowledge Program Enterprise Coverage



Patient-entered Data

- **~115,000 encounters each month contain HSM data**
- **Over 3.9 million patient visits contain PRO data**
- **Over 1,000 providers actively use the KP system across 89 centers/departments**
- **197 patient or provider validated questionnaires (additional 351 individual questions)**



As of 7/1/17

Medicine Institute
Patient-Entered Data Collection

- **Piloted in 2 clinics beginning 2015**
- **Implementation across ~45 clinics 2016- 2017**
- **Content:**
  - **PROMIS Global Health**
    - ***Collected across all areas***
  - **Patient Health Questionnaire**
    - **PHQ-2 → PHQ-9**
    - ***Collected in Neurological, Heart & Vascular, Rheumatology, Cancer***
  - **Generalized Anxiety Disorder (GAD)**
    - **GAD-2 → GAD-7**
    - ***Collected in Neurological, Heart & Vascular***
  - **Social Needs Questionnaire**
    - **16 questions**

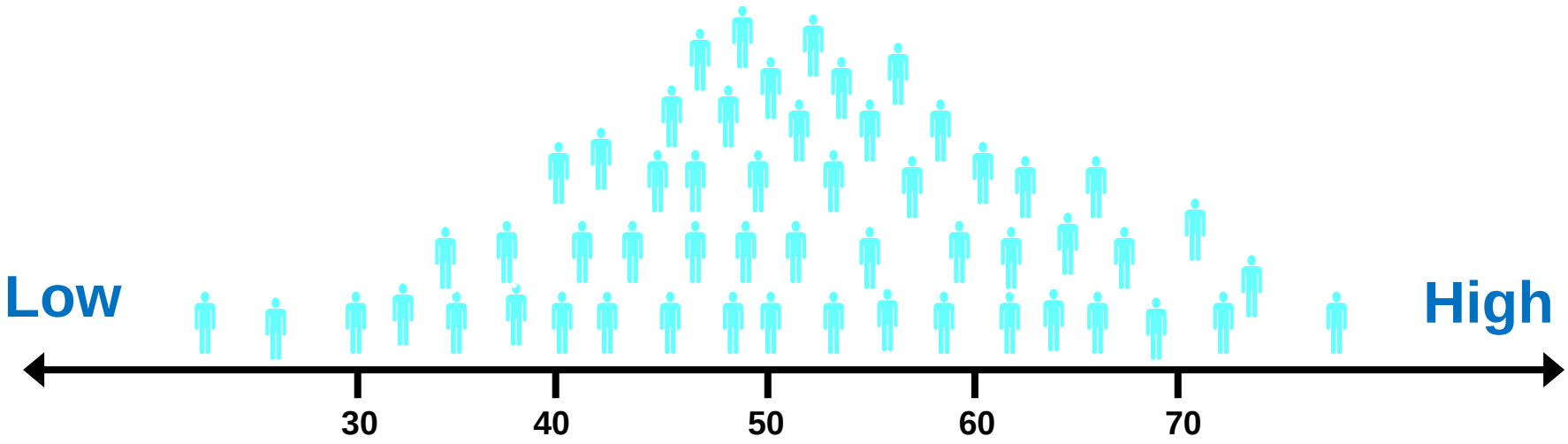
Clinical decision support:
- BPAs
- Ordersets

PROMIS Global Health (aka PROMIS-10)

- **10 items, each measuring a separate domain of health**
- **Summated into 2 separate scores for physical health and mental health**
- **Scores are standardized to the general population:**
  - **Mean t-score = 50, Standard Deviation = 10**
- **Higher scores indicate better function.**
- **Percentiles allow more direct comparison to the general population.**
  - **Example: percentile of 33.5 indicates that the patient's score is better than 33.5% of the population**

PROMIS

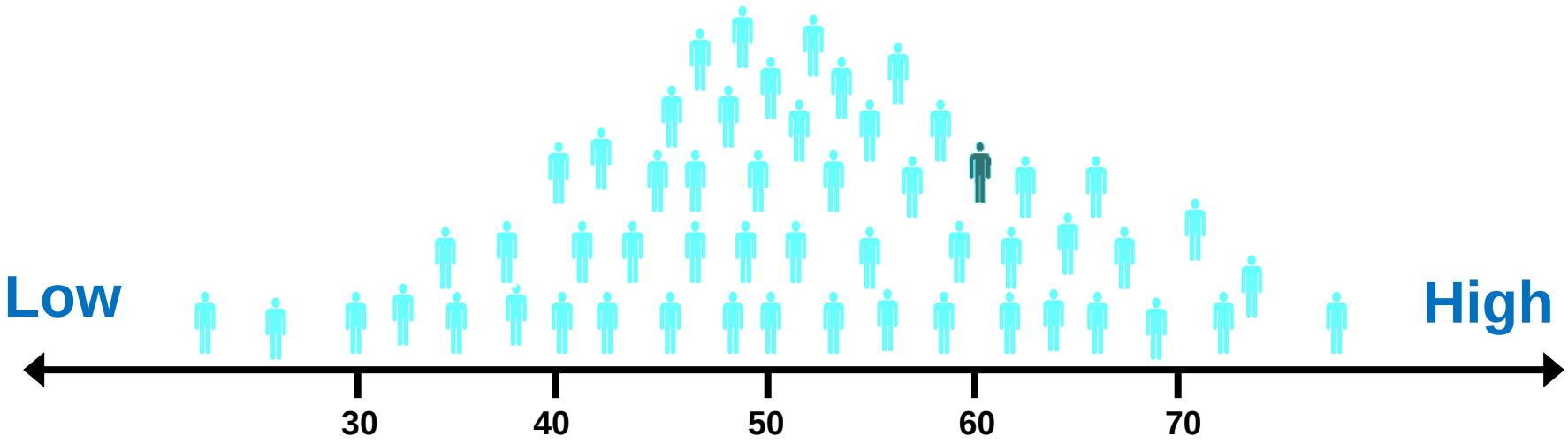
PRO Bank Person Score



M = 50, SD = 10

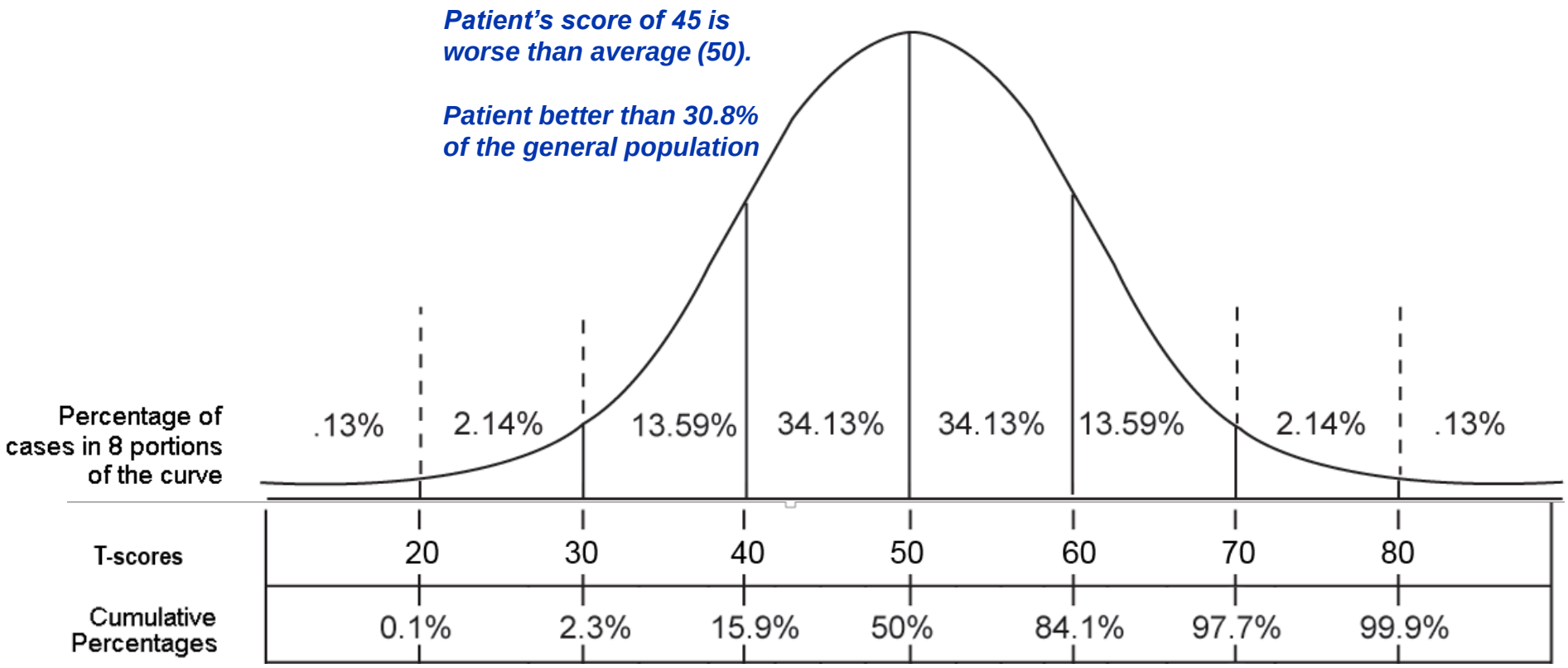
PROMIS

Physical Health Score=60



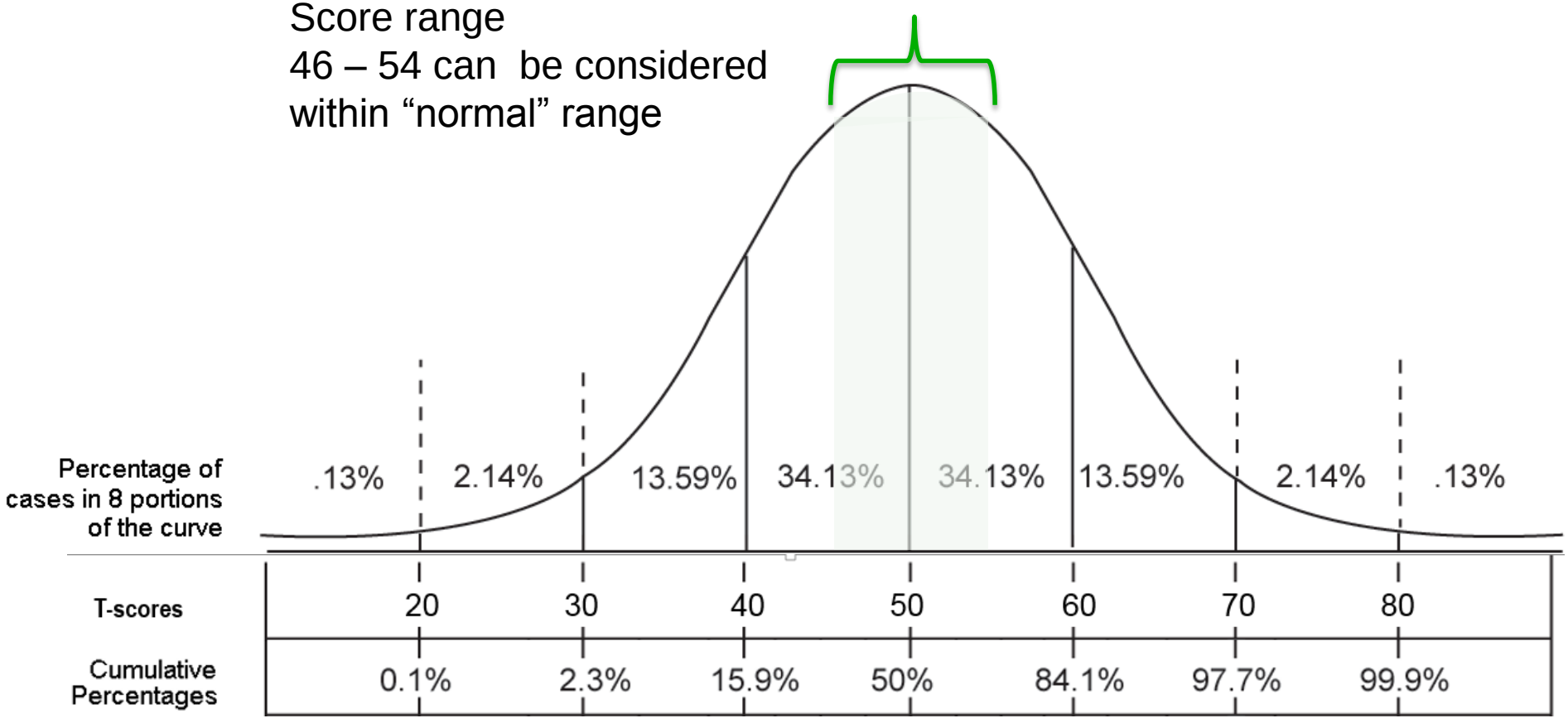
This patient's physical health score is **60**, significantly better than average (50).

PROMIS Score Distributions



PROMIS Score Distributions

Score range
46 – 54 can be considered
within “normal” range

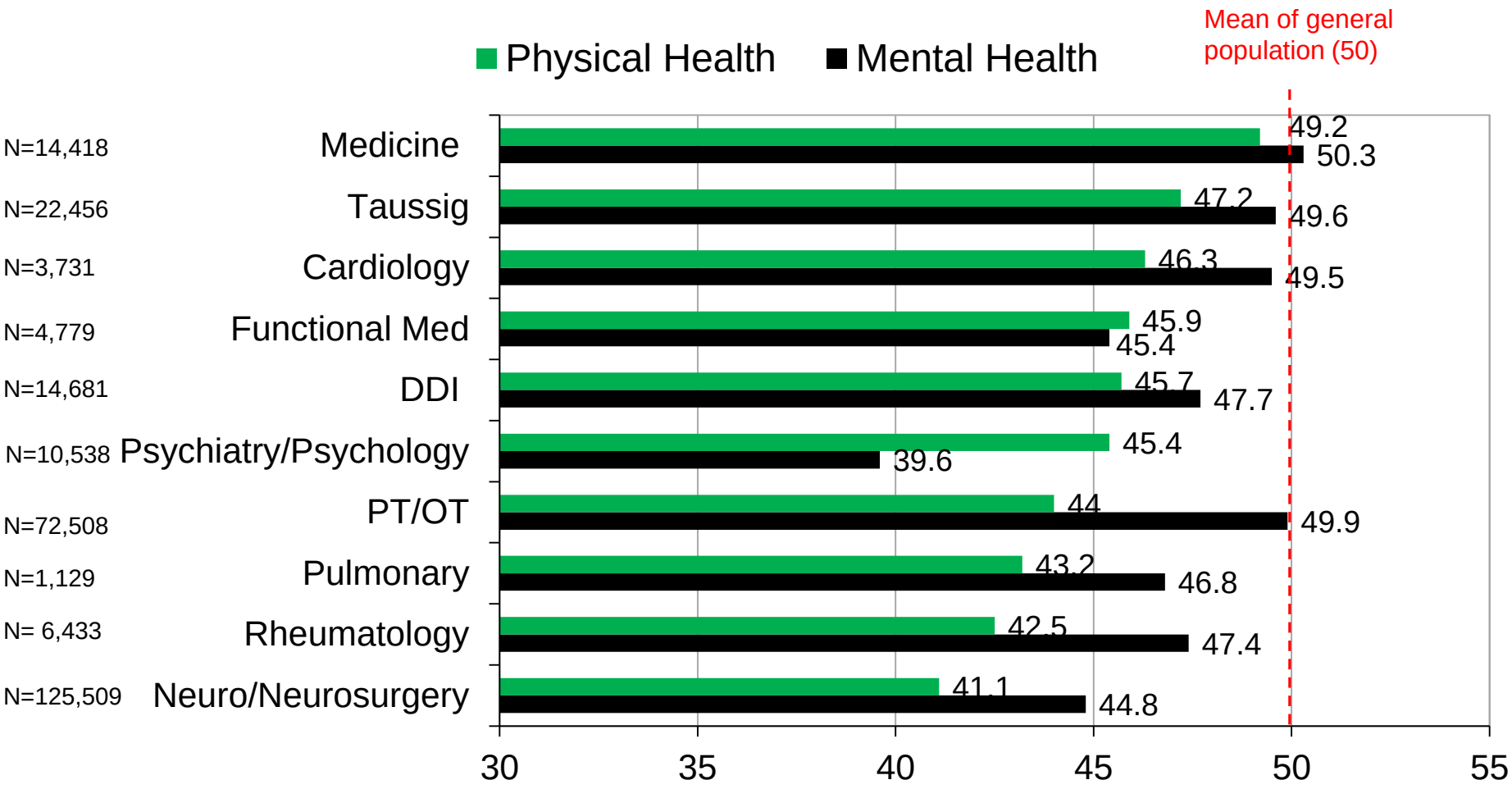


Why collect a standard measure of health?

1. **As an aid during the clinical encounter (individual-level):**
   - **Provides a better understanding of patients' well-being (they often have multiple conditions)**
   - **Allows tracking of changes in a patient's health**
   - **Can be helpful to initiate conversation about a patient's physical or mental health**

2. **To allow evaluation of patient outcomes (group-level):**
   - **Assess outcomes of care across different conditions**
     - **Provide comparison to the general U.S. population**
     - **?Use in risk stratification models**
   - **Aid in compliance to growing list of nationally endorsed performance measures for assessment of functional status**
   - **?Negotiate with payers**

Comparison of health status across populations using PROMIS Global Health



(n represents visits)

10/1/15 – 11/27/16

Assessing the Value of PED in Diabetes Care

Central Questions

Does patient-entered data (PROMIS and PHQ) help us better understand our population of diabetic patients, above and beyond EHR and claims data?

Does patient-entered data help to predict outcomes?

Approach

1. **Define diabetes cohort**
2. **Assess PED data availability for cohort**
3. **Categorize 2016 PROMIS & PHQ responses (one-time scores & trends)**
4. **Identify associations between PED responses and 2017 outcomes**

Data Sources

- **Clinical (EHR) & billing data**
- **PED data (Knowledge Program)**
- **Claims data (medical + pharmacy)**

Diabetes Cohort Definition (n=59,000)

- Adults, type 2 diabetes only
- Have Cleveland Clinic primary care
- Criteria:
  - DM on problem list, or
  - ≥2 encounters with DM code (office, ER, inpatient, obs), or
  - On relevant DM medications, or
  - Any HbA1c ≥ 6.5, AND
  - exclude steroid-induced & gestational DM

Diabetes Cohort (n=59k)

Characteristics	
Females, n (%)	28,525 (49%)
Age, Mean ± SD	63.2 ± 13.5
Range	18 – 105
Race, n (%)	
White	42,585 (72%)
Black	11,780 (20%)
Other	2,193 (4%)
Unknown	2,374 (4%)
Diagnosed Depression in 2016 (EHR problem list and/or billing codes)	8,767 (15%)
Highest A1c Score, Mean ± SD	7.7 ± 1.7
LDL, Mean ± SD	89.3 ± 34.0

Do we have enough PED data availability in this cohort?

What does the PED data tell us about their health as compared to the general population?

PED Coverage in DM Cohort

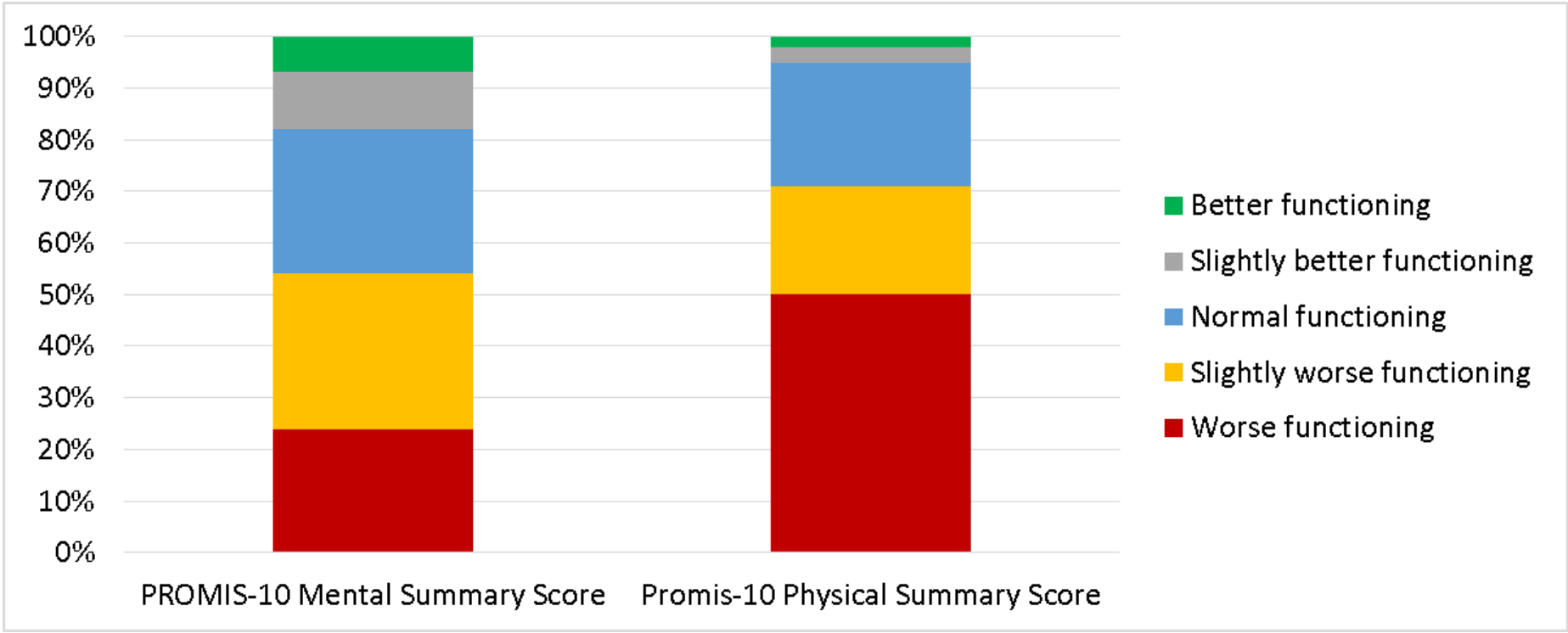
PROMIS

- **Mental**
  - 44,353 scores
  - 20,107 pts (34%)
  - Mean: 46.3 ± 9.2
- **Physical**
  - 43,710 scores
  - 19,693 pts (33%)
  - Mean: 41.6 ± 8.4

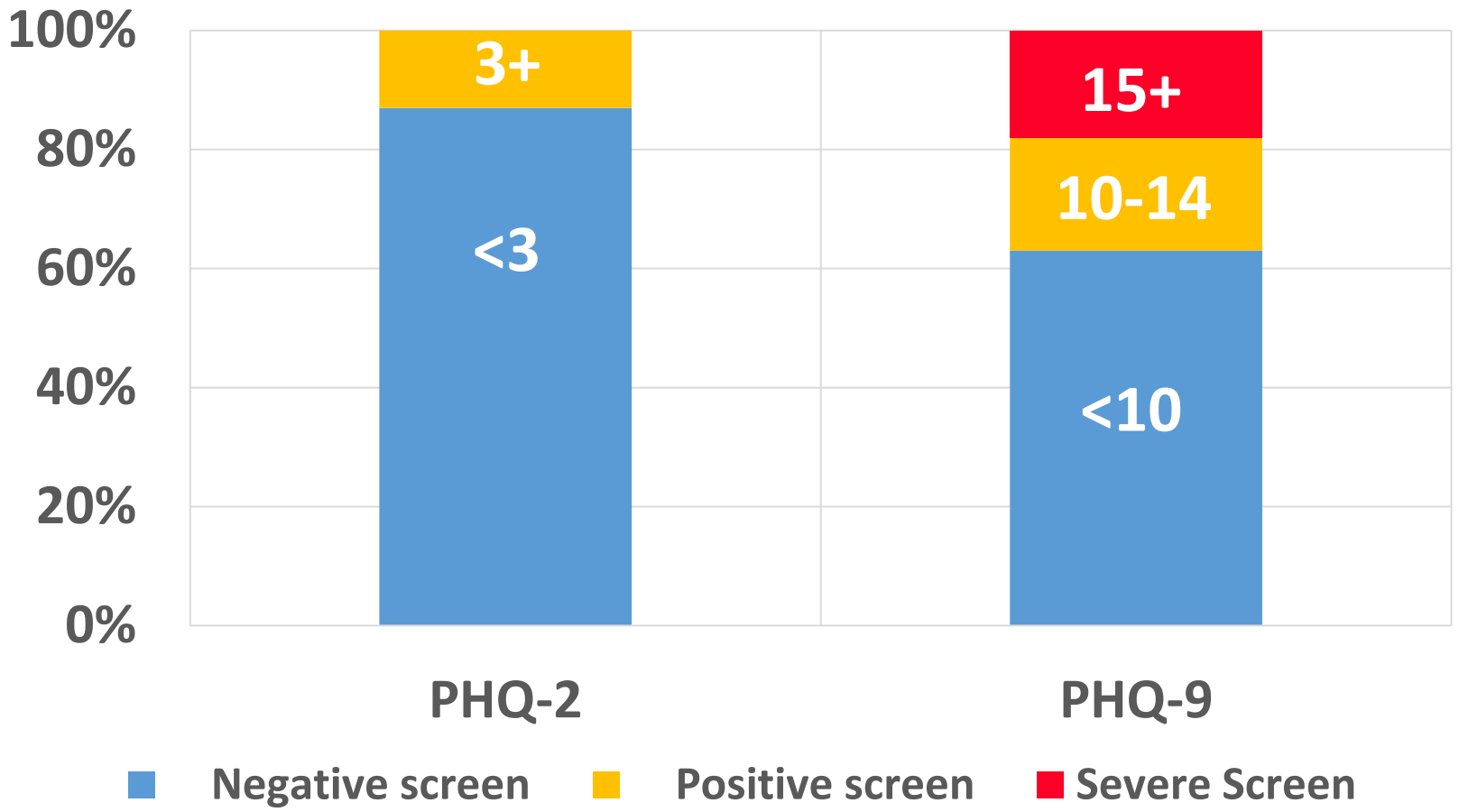
PHQ-2 and PHQ-9

- **PHQ-2**
  - 70,750 scores
  - 43,673 pts (74%)
- **PHQ-9**
  - 25,167 scores
  - 8,366 pts (14%)

Distribution of PROMIS Scores



Distribution of PHQ Scores



Do we have enough PED data availability in this cohort?

YES

What does the PED data tell us about their health as compared to the general population?

Poorer self-rated health

Comparable PHQ scores

Is there a link between concurrent PED scores and ED/inpatient utilization?

2016 PED Data & 2016 Outcomes

	ED Visit in 2016?		
	Yes	**No**	**P-Value**
PROMIS-10 Mental Score	46.5 ± 9.0	49.0 ± 9.0	**<0.01**
PROMIS-10 Physical Score	41.0 ± 7.9	44.2 ± 8.3	**<0.01**
PHQ2 Score (q1, q3)	0 (0, 2)	0 (0, 0)	**<0.01**
PHQ9 Score (q1, q3)	9 (4, 14)	7 (2, 13)	**<0.01**

ED visits to any Cleveland Clinic ED (via billing data)

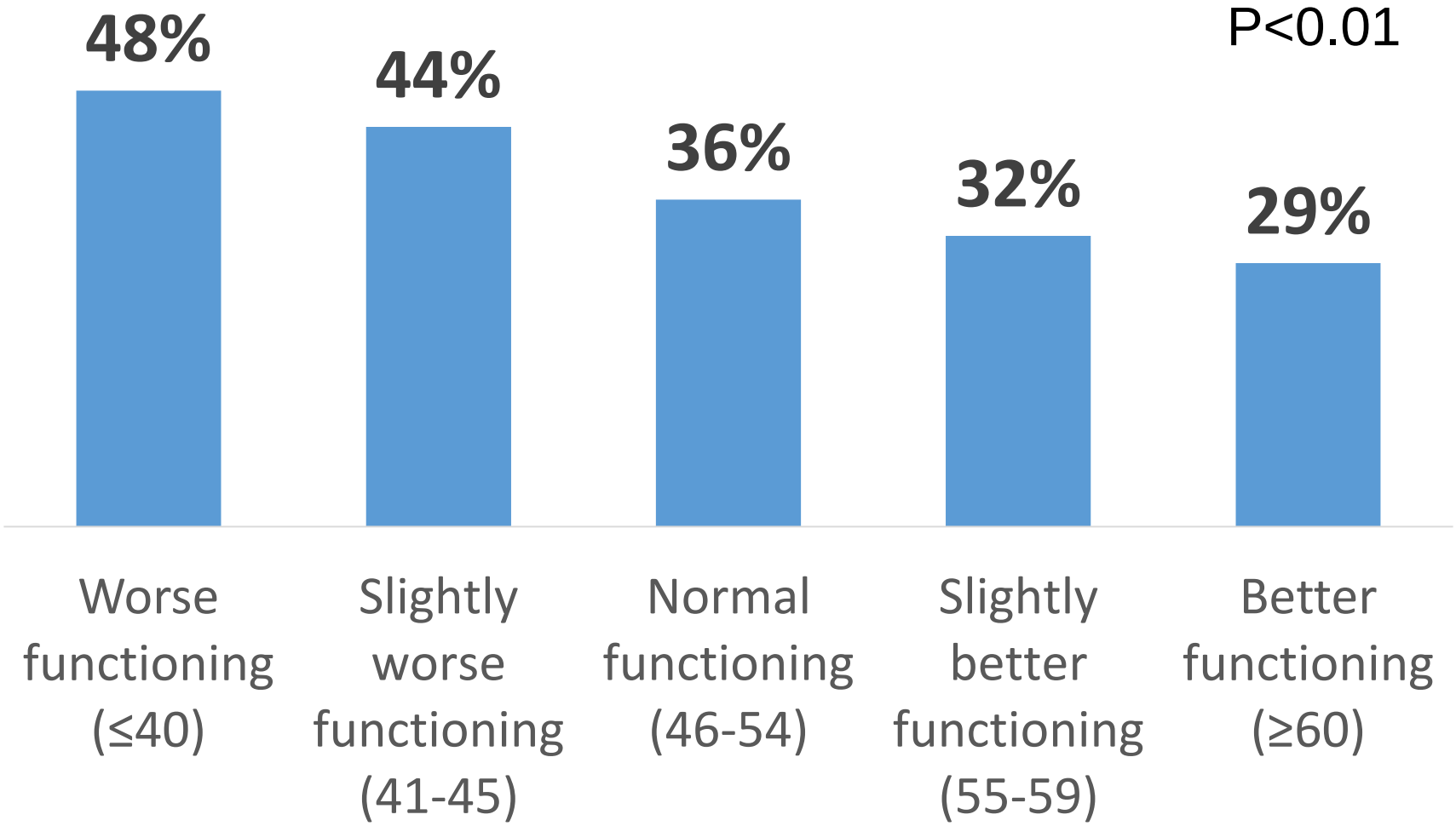
2016 PED Data & 2016 Outcomes

	Inpatient Admit in 2016?		
	Yes	**No**	**P-Value**
PROMIS-10 Mental	46.7 ± 9.2	48.4 ± 9.0	**<0.01**
PROMIS-10 Physical	40.7 ± 8.1	43.6 ± 8.2	**<0.01**
PHQ2 Score (q1, q3)	0 (0, 2)	0 (0, 1)	**<0.01**
PHQ9 Score (q1, q3)	8 (4, 15)	7 (3, 13)	**<0.01**

Inpatient admits to any Cleveland Clinic hospital (via billing data)

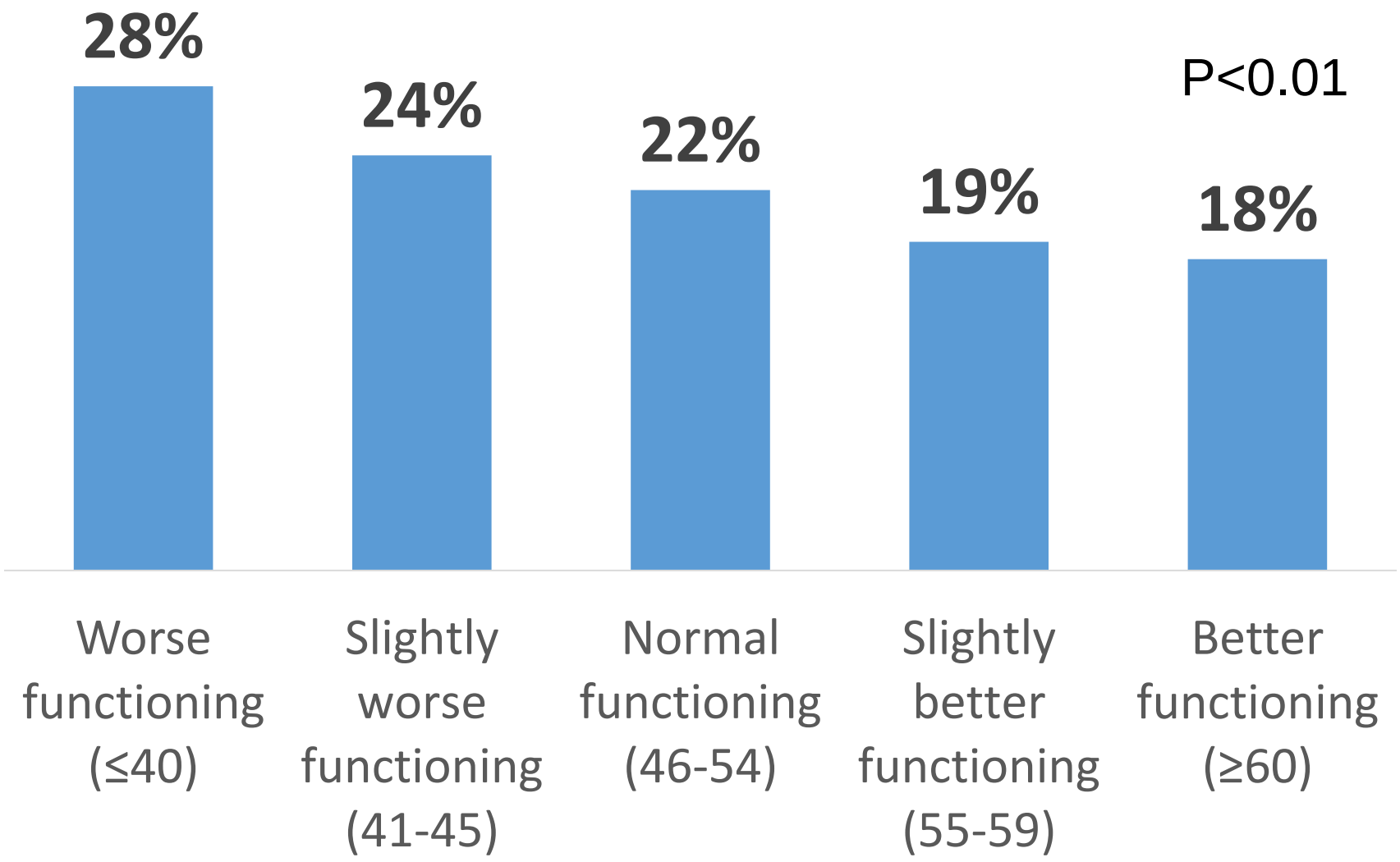
PROMIS Mental & ED Utilization

Portion of patients with 1+ ED visit in 2016



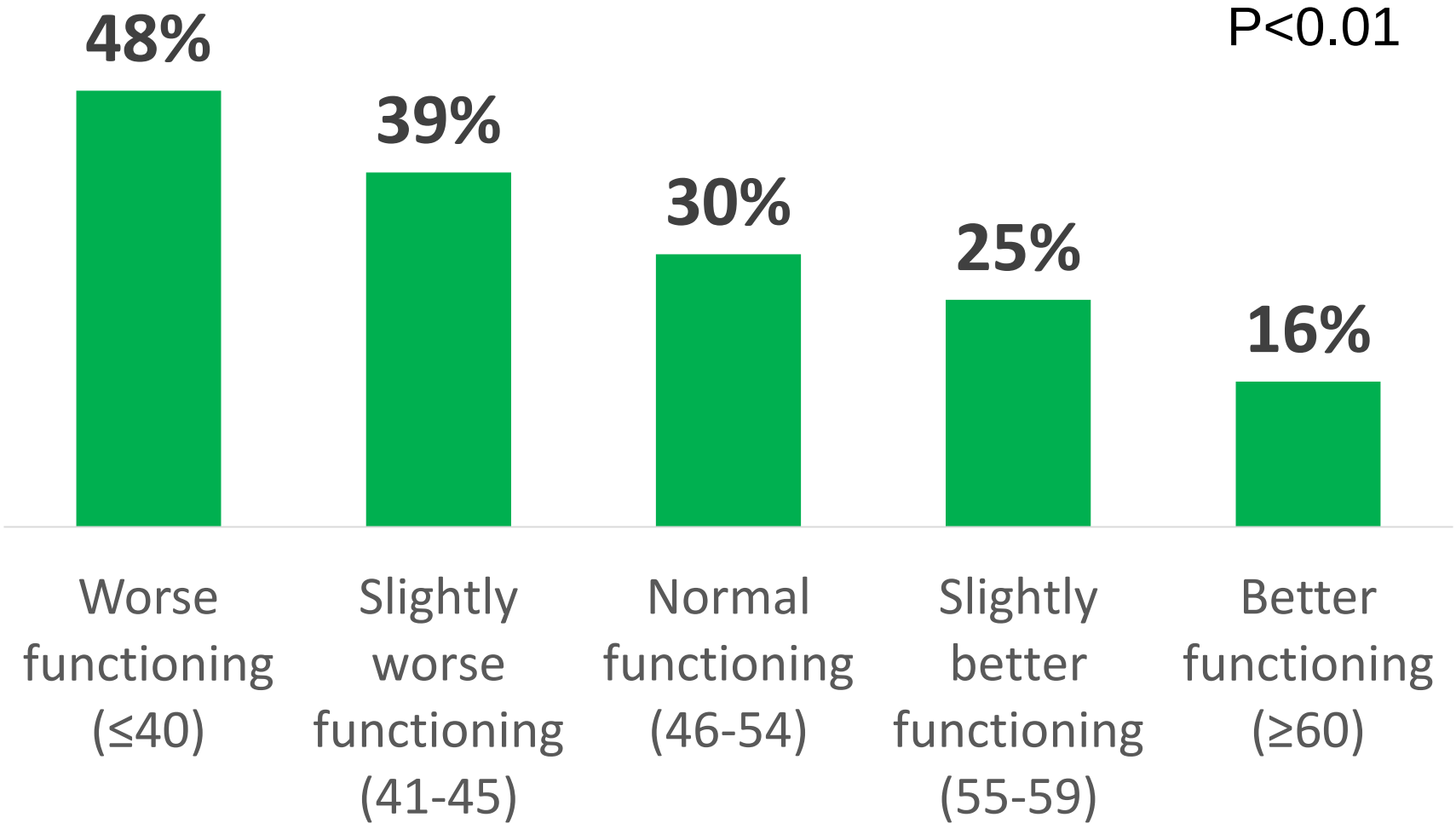
PROMIS Mental & Inpatient Utilization

Portion of patients with 1+ inpatient stay in 2016



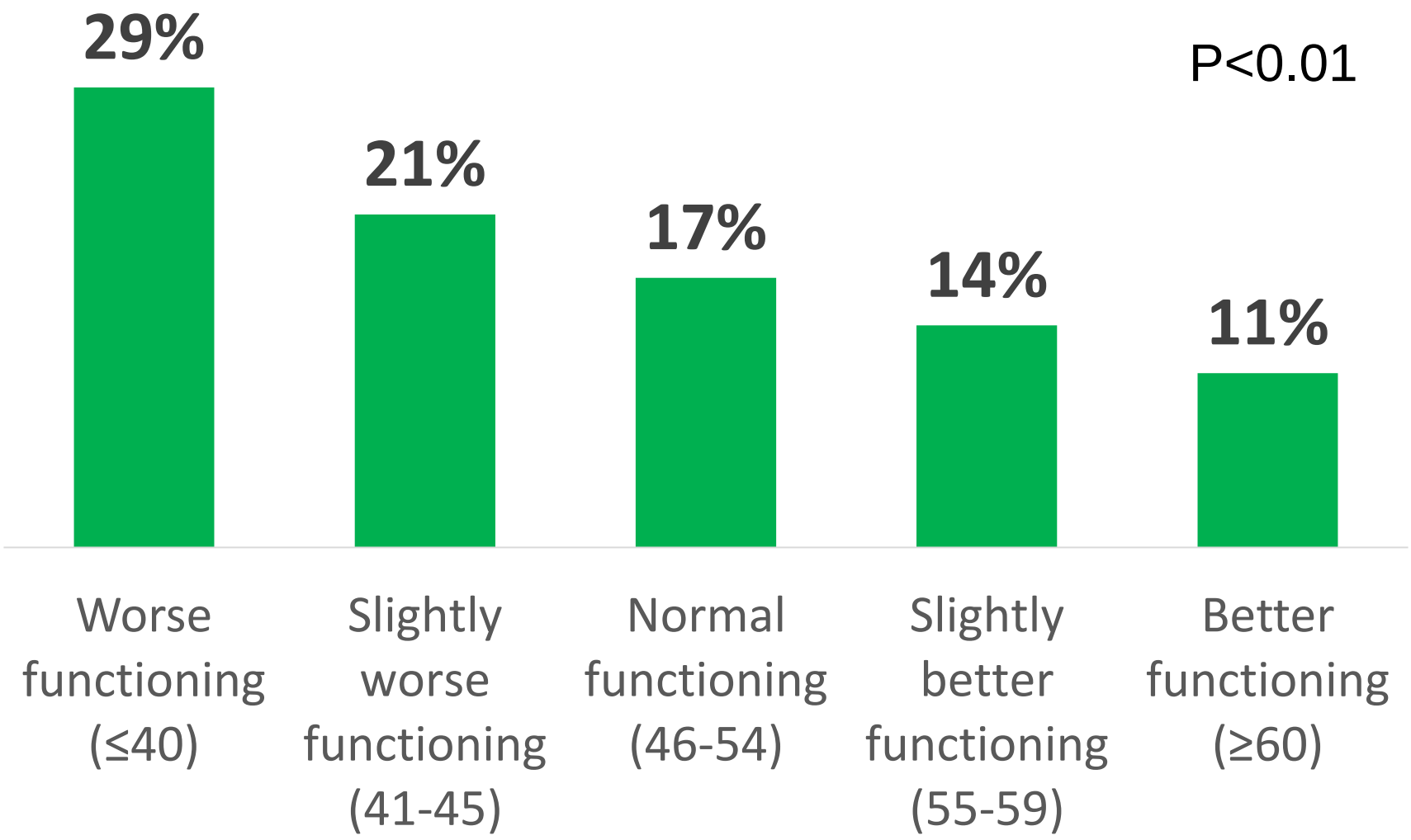
PROMIS Physical & ED Utilization

Portion of patients with 1+ ED visit in 2016



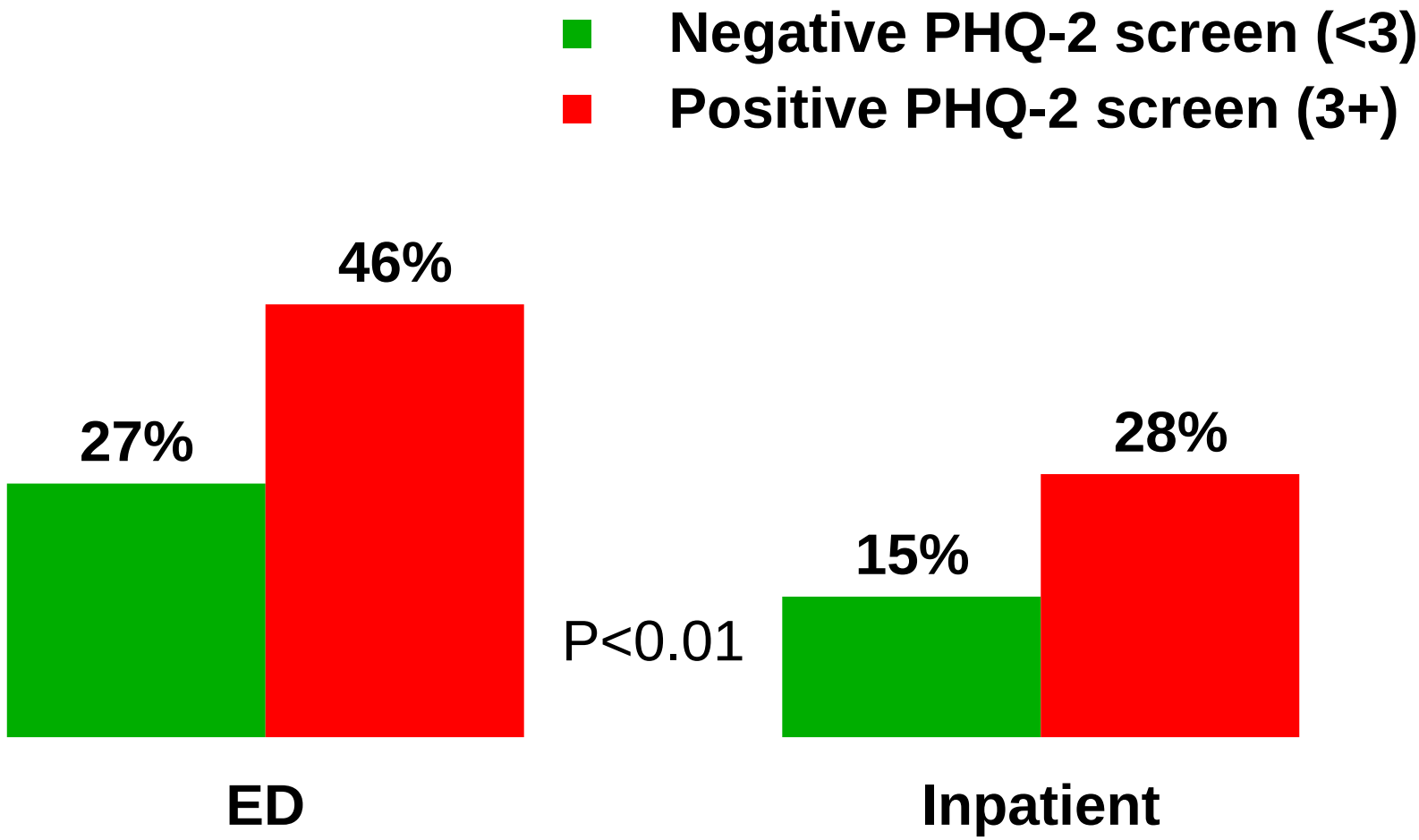
PROMIS Physical & Inpatient Utilization

Portion of patients with 1+ inpatient stay in 2016



PHQ-2 & ED/Inpatient Utilization

Portion of patients with 1+ ED/inpt in 2016



Is there a link between concurrent PED scores and ED/inpatient utilization?

YES

Does a single PED response in 2016 predict outcomes in 2017?

ED Visits in 2017		
1st 2016 Response	Odds Ratio	p value
PROMIS Mental	**0.97**	<0.01
PROMIS Physical	**0.96**	<0.01
PHQ-2	**1.09**	<0.01

Inpatient Admissions in 2017		
1st 2016 Response	Odds Ratio	p value
PROMIS Mental	**0.98**	<0.01
PROMIS Physical	**0.95**	<0.01
PHQ-2	**1.04**	<0.01

DM Med Compliance in 2017		
1st 2016 Response	Odds Ratio	p value
PROMIS Mental	**1.02**	<0.01
PROMIS Physical	**1.02**	<0.01
PHQ-2	**0.92**	<0.01

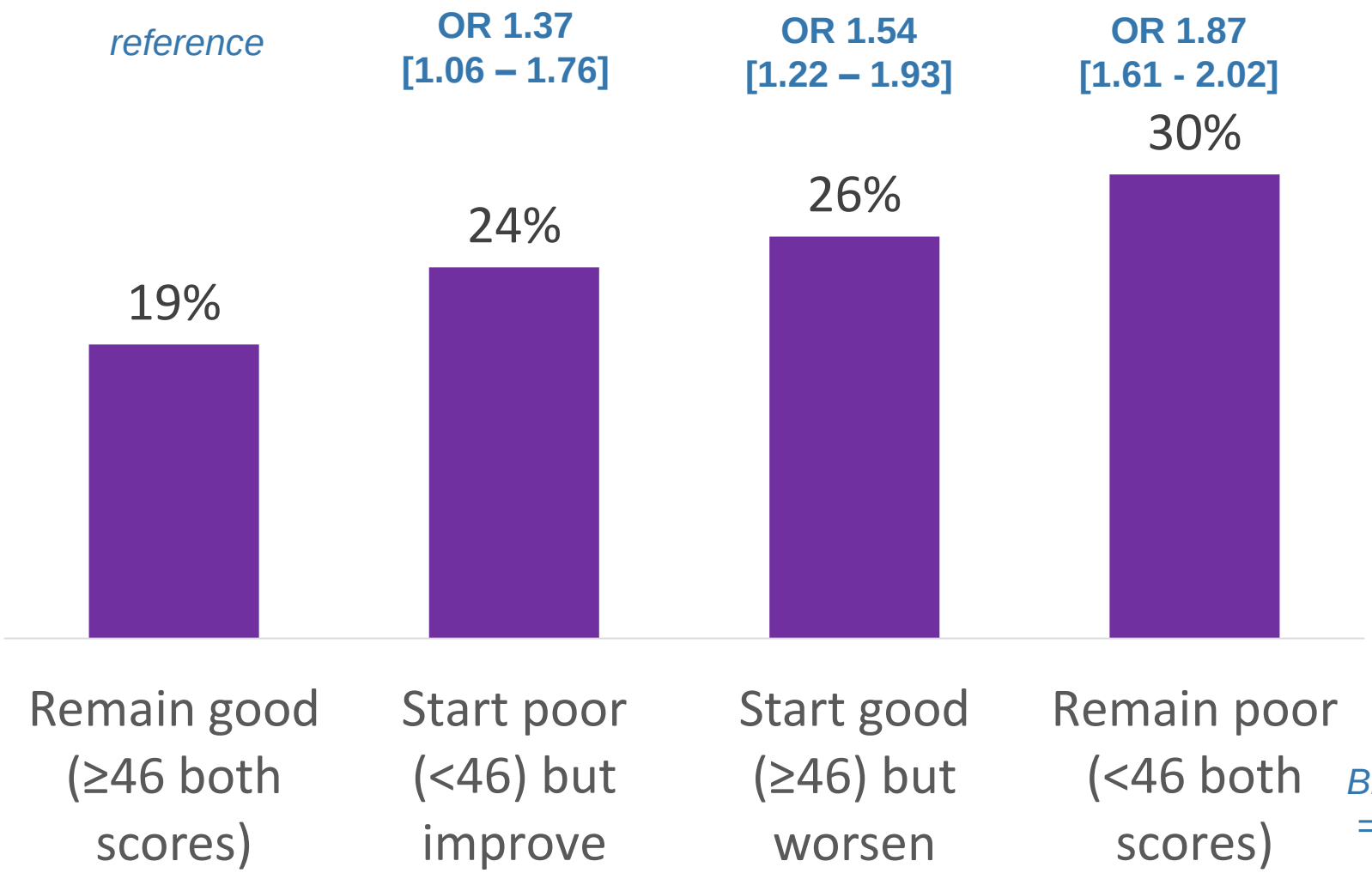
Does a single PED response in 2016 predict outcomes in 2017?

YES

Are trends in PED responses in 2016 predictive of outcomes in 2017?

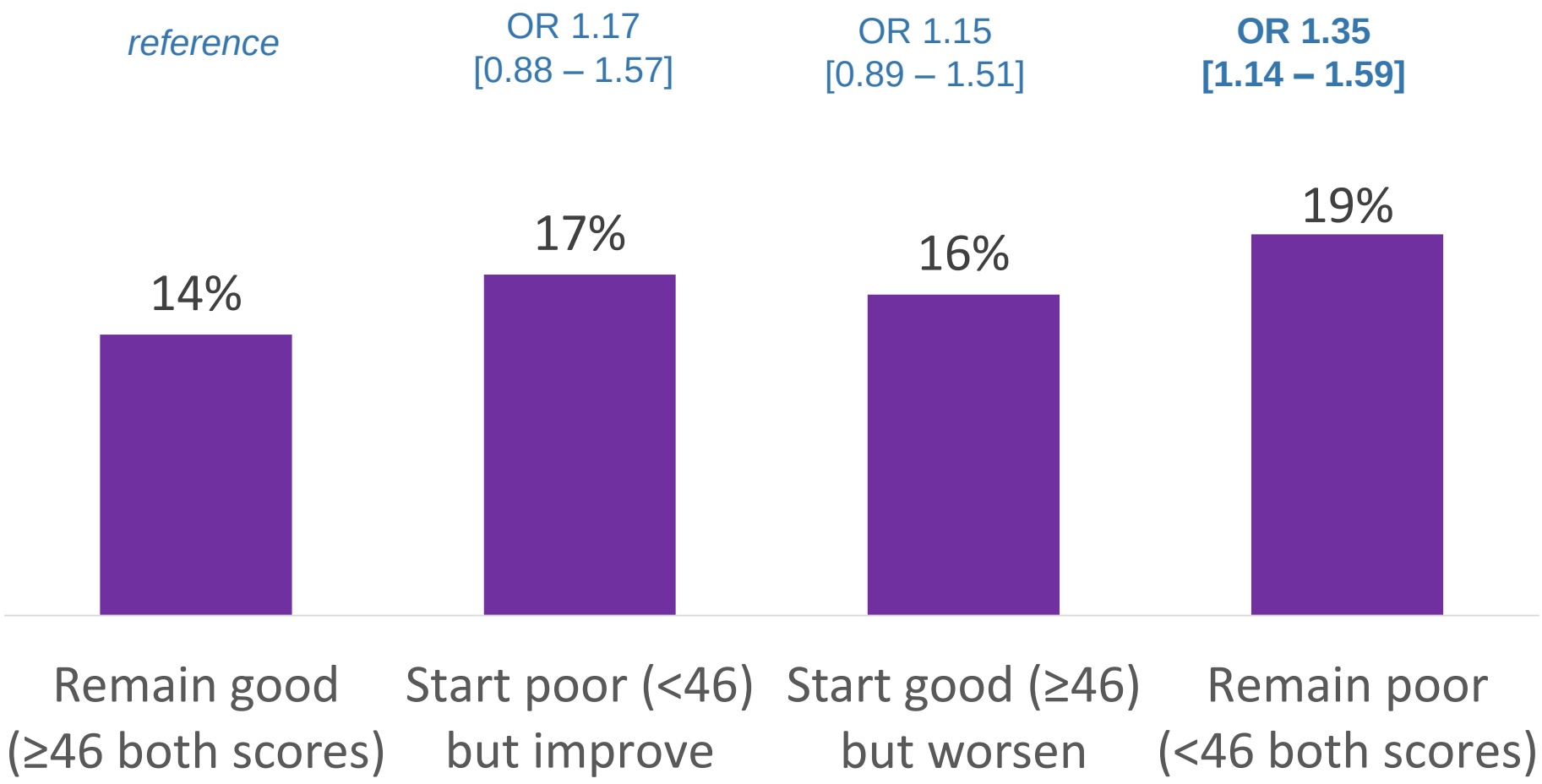
Change in 2016 PROMIS Mental & 2017 ED Utilization

Portion of patients with 1+ ED visit in 2017



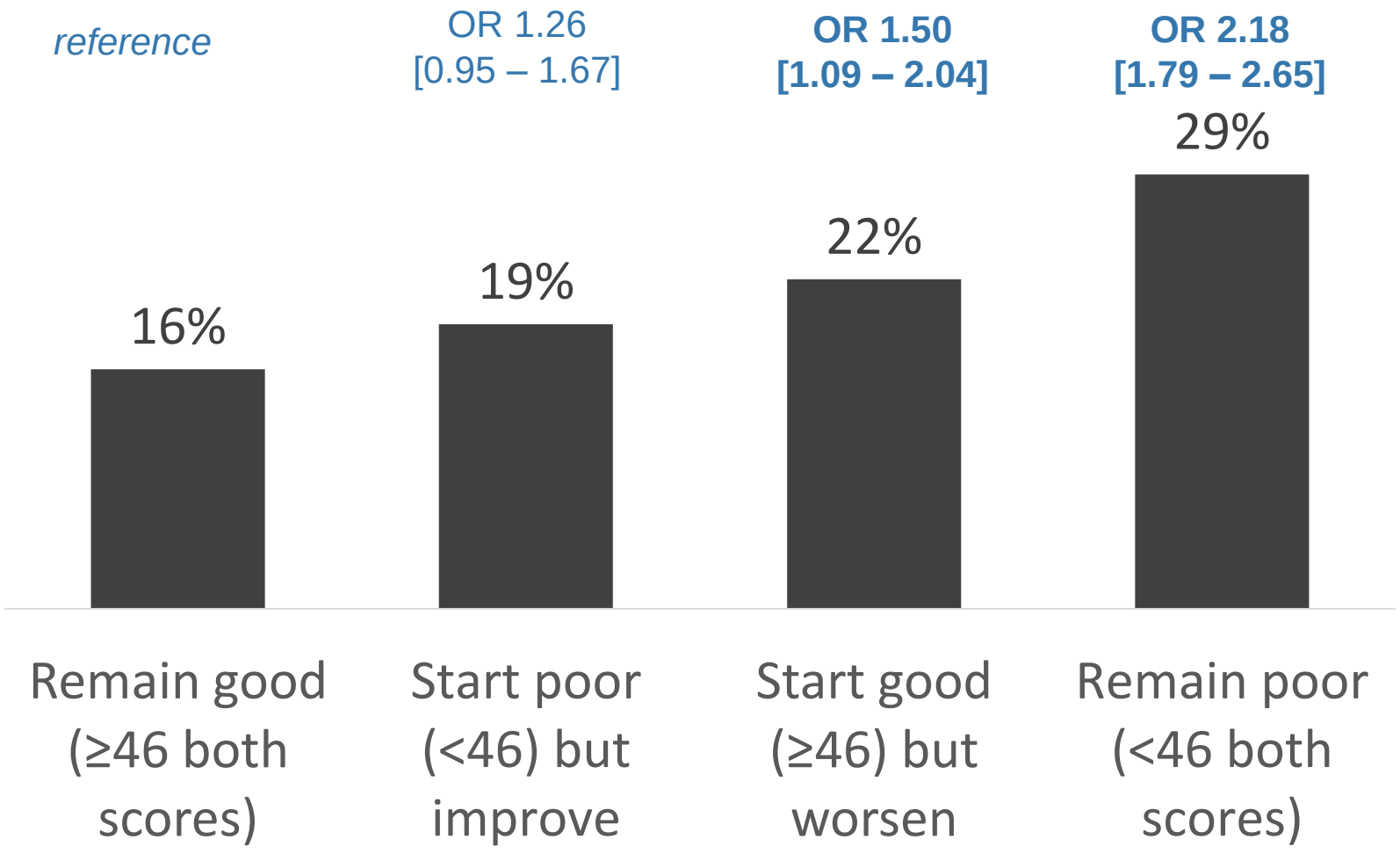
Change in 2016 PROMIS Mental & 2017 Inpatient Utilization

Portion of patients with 1+ inpatient visit in 2017



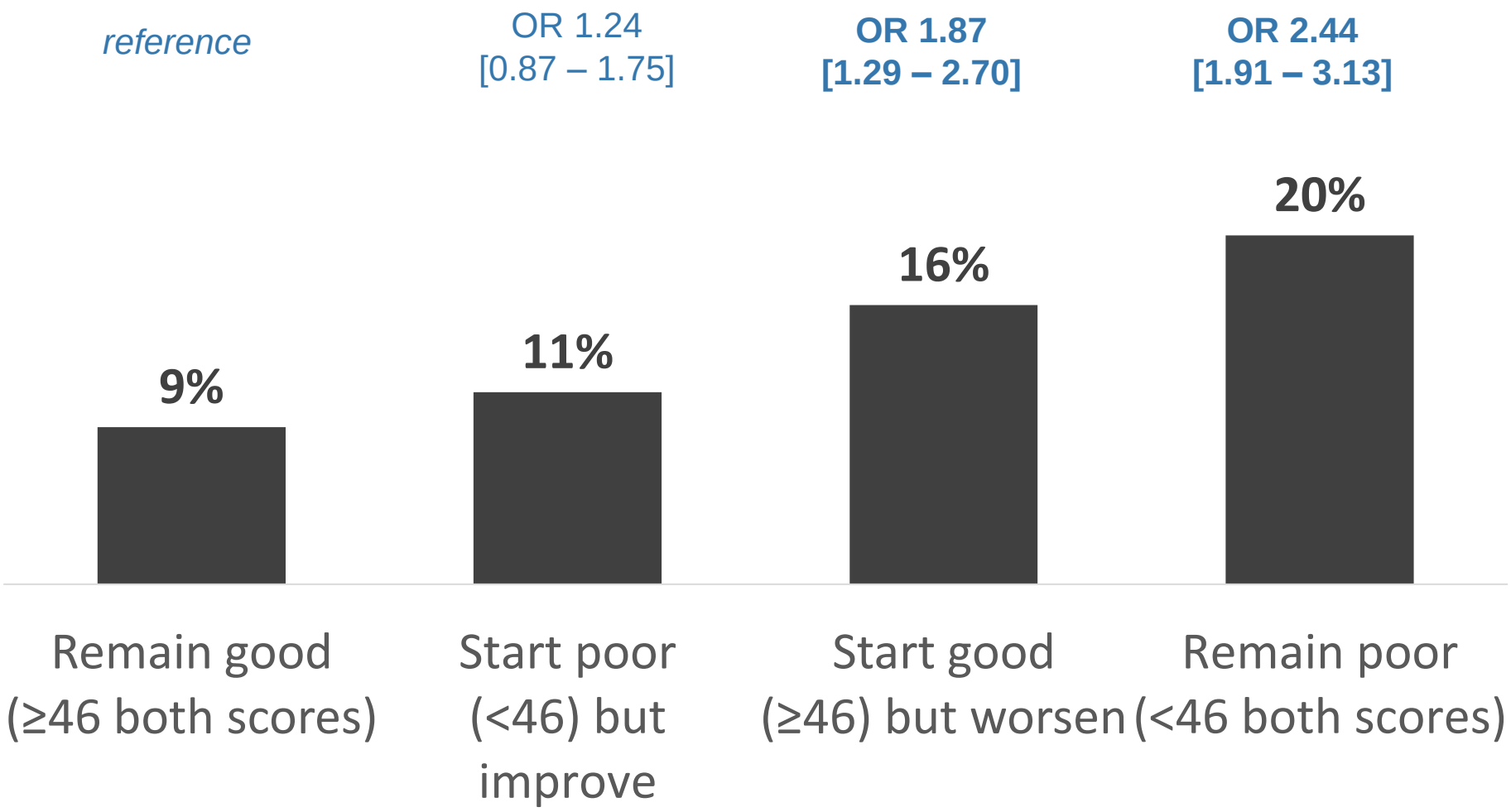
Change in 2016 PROMIS Physical & 2017 ED Utilization

Portion of patients with 1+ ED visit in 2017



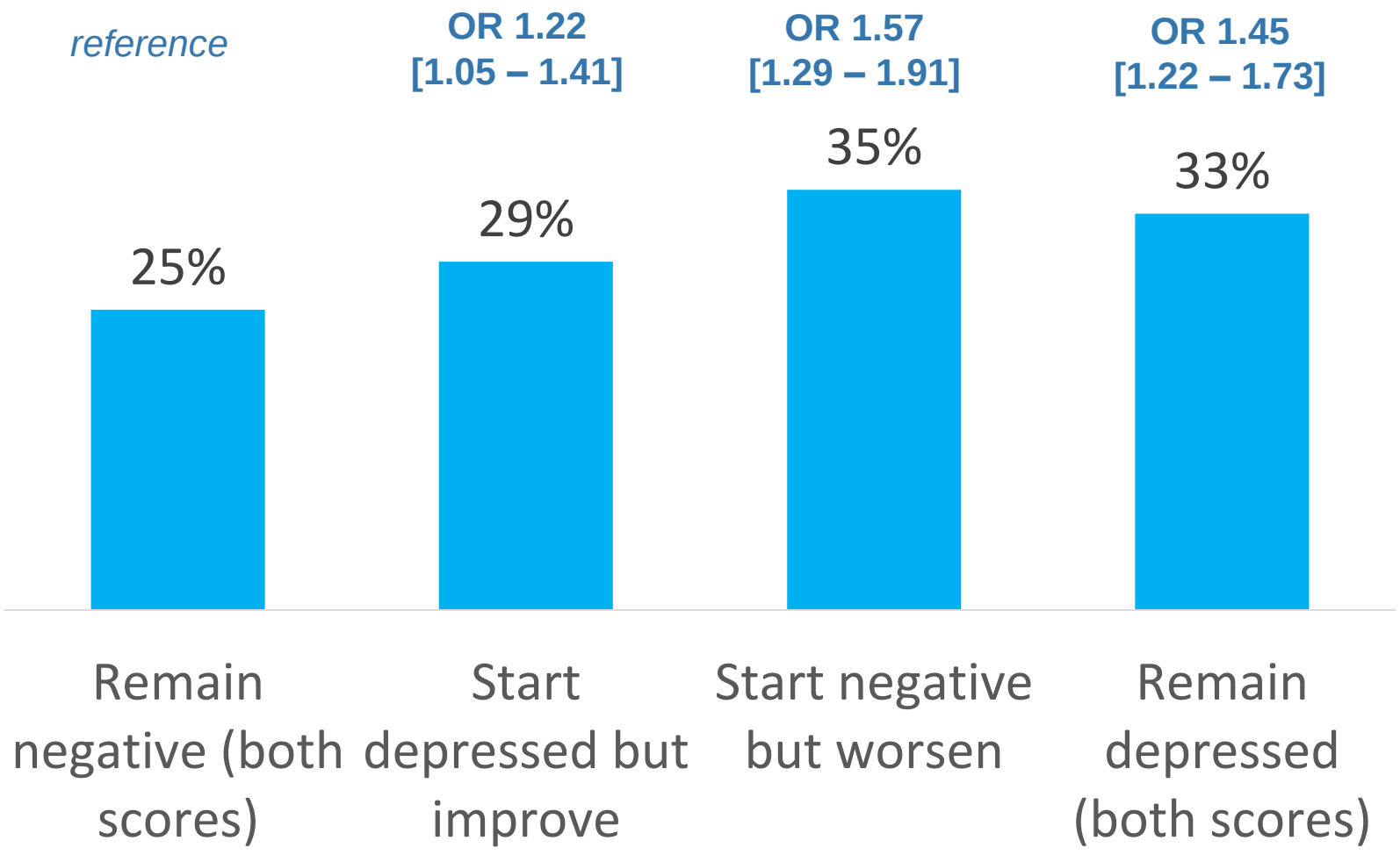
Change in 2016 PROMIS Physical & 2017 Inpatient Utilization

Portion of patients with 1+ inpatient visit in 2017



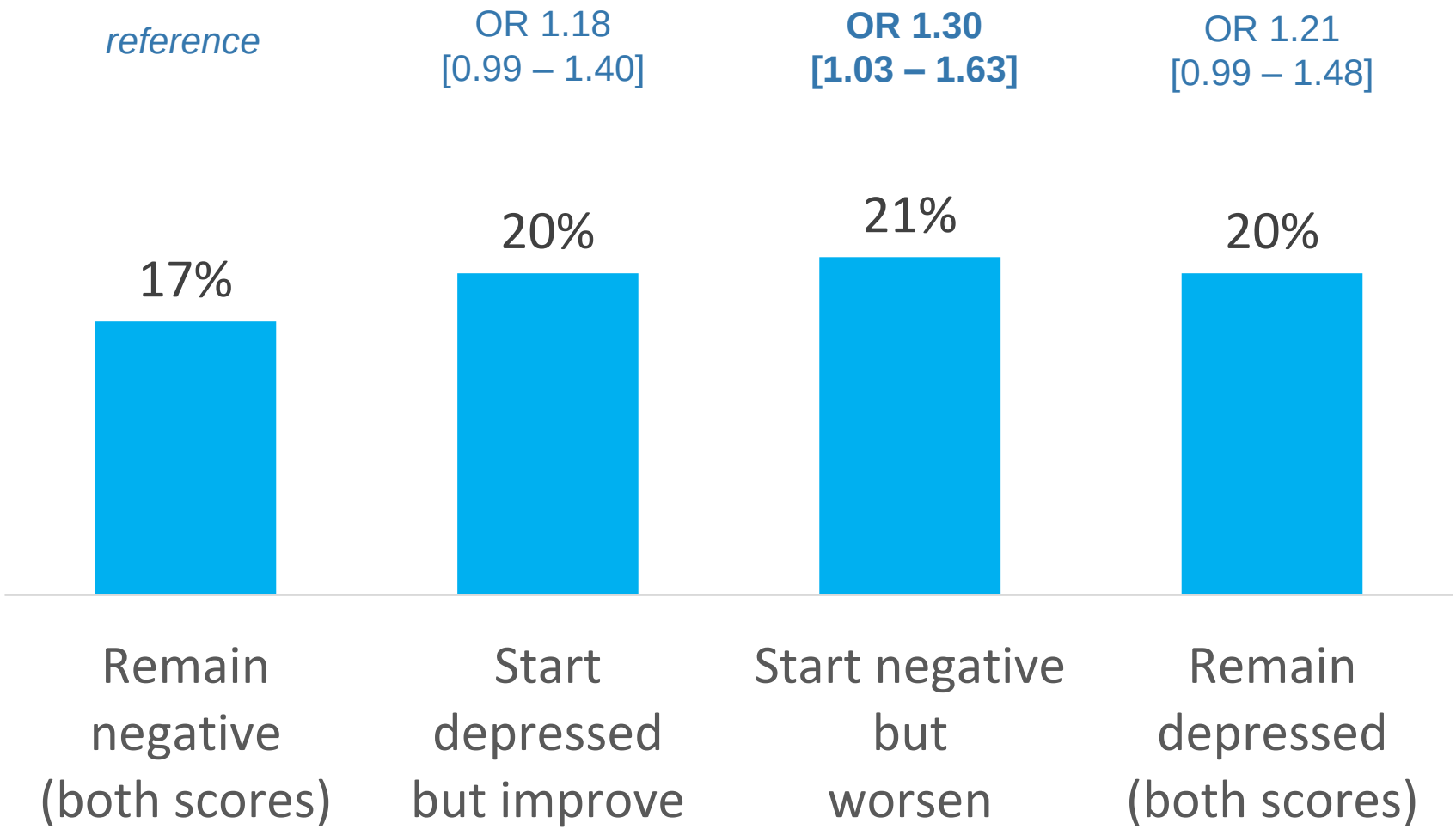
Change in 2016 PHQ-2 Score & 2017 ED Utilization

Portion of patients with 1+ ED visit in 2017



Change in 2016 PHQ-2 Score & 2017 Inpatient Utilization

Portion of patients with 1+ inpatient visit in 2017



2017 DM Medication Compliance

- **Measured via pharmacy claims data**
  - **Compliant = on-time refills ≥ 80%**
  - **Data available for 11k of 59k patients**

2016 PED Response	Odds Ratio	p value
First PROMIS Mental	**1.02**	<0.01
2 or more PROMIS Mental <46	**0.73**	0.03
First PROMIS Physical	**1.02**	<0.01
First PHQ-2	**0.92**	0.02

Are changes in PED responses in 2016 predictive of outcomes in 2017?

YES

PROMIS Physical >> Mental

ED >> Inpatient

Key Takeaways

- PED = simpler approach to prediction?
- Associations appear stronger with ED
- One-time scores and trends both useful
- Useful for patient care and pop health
- Comparison to other models warranted

Cleveland Clinic

Every life deserves world class care.